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857 Young children sleep whenever they are tired. Children
513 from about 6 years of age onward average about 8 hours of sleep each night. Fires are occasionally kept burning late into the night when mosquitoes are troublesome.

514 Men micturate in a standing position; women squat on the heels or stand with knees bent. Both sexes defecate in a position squatting on both heels.

412 Cutting habits vary according to the instrument employed. In general, a knife is moved away from the body, a native cutting or scraping instrument toward the body. Adzing is, of course, toward the body.

483 Heavy weights, such as canoes, are lifted from the ground with the arms in front of the body and carried just clear of the ground. A house roof is carried on the shoulders of a number of men who get inside the roof while it is on the ground and hoist it onto their shoulders. A few coconuts are
482 carried in the hands, with or without a basket; a large number are balanced on the shoulder. Many coconuts are carried on a rough carrying pole, weighted at both ends and balanced at its middle point on the shoulder. The right shoulder is generally preferred. Women generally carry weights balanced on the head, using a pad made of a bunch of leaves placed between the head and the burden.

481 Climbing coconut trees and coconut husking are described on page 86.
515 Swimming is naturally acquired behavior and is not taught to children. Pukapukans are not great swimmers or divers, but use the sea mostly for bathing,
526 when they run or wade from the beach and then suddenly duck. Children
226 are in the water a great deal; they play at water splashing, surface diving, and underwater swimming games. Adults rarely play swimming games. In diving for *Tridacna* shellfish, adults dive from the surface by elevating the buttocks and depressing the head.

516 Casual observation indicates that left-handedness (*lima mayui*) is common in both children and adults. This was observed in adults in the use of implements and in the handling of darts in games, in children when dancing.

The toes are used extensively for picking up objects from the ground and for holding objects when both hands are engaged and when purchase is required.

501 Both men and women pole and paddle canoes today. The individual poles a canoe sitting, standing on the floor of the canoe, or standing with one foot on each gunwale. Paddling is done on either side of the canoe with equal ease. The paddle is grasped with both hands, fingers pointing to the front, thumbs to the rear. It is unusual for a canoe crew to sing or chant in rhythm
[461] to the paddling. The paddle is plunged vertically into the water and the stroke is fore and aft. Two types of strokes are used: *alo atu pele* is a long, even, powerful stroke with the full stretch and strength of arms and shoulders, dipping the paddle blade deep into the water, and used for long distances when consistent power is required; *alo maiuga* is a short, quick, shallow stroke,

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821 192 slightly to the west of *tokelau* is termed *mao tokelau wakatiu*; one blowing slightly to the east of *tokelau* is *mao tokelau matua*. A wind that chops and changes to several points in the same day is called *matangi tilivale*; a wind that shifts to another direction to blow steadily for a week or so before changing back again is *matangi tautaka*; a wind that shifts and blows only for a day or so before changing again is *matangi tautakataka*. As certain winds are valuable as two-way winds in sailing across the lagoon and back, the winds are classified: two-way winds (*matangi alalua*) from Wale to Motu Kotawa are *malangai* and *wakatiu*, from Wale to Motu Ko they are *mauake* and *palapu*; one-way winds (*matangi alatayi*) from Motu Kotawa to Motu Ko are *tokelau* and *wakalua* and the wind for the reverse journey is *yulu*.

821 787 824 [847] Various beliefs are held about the relation of the weather to other phenomena. Black clouds (*kapuao uli*) low on the horizon, accompanied by thunder (*watitili*), are a sign that fresh fish have come inside the reef. A vigorous electrical storm was formerly considered to portend a time of violence. It was also believed to be the gods' warning of coming punishments for violation of tapus. When lightning (*uila*) strikes the ground or a tree or when a meteor (*mata wai kave*) appears to strike the island, this is a sign that a woman has conceived a child in incest and has had an abortion or miscarriage in order to avoid a shameful pregnancy.

A rainbow (*nuanua*) breaking through black clouds and a stormy sky is a sign that the bad weather has been broken by the bars of the rainbow and will soon blow away. A rainbow cutting through the clouds in a dull sky is a sign that turtles have come to the outer beaches, or that a shoal of fish is outside the reef. If the bonito fleet is fishing and the people see this rainbow, they comment that the fishing will be successful. A rainbow seen in the early morning or late afternoon is a sign that albacore fishing is good. [613] For chiefly succession in the Muliwutu lineage the successful aspirant is the one who can make a rainbow appear in the sky when he strikes with his right hand on the sacred stone of the worshiping enclosure (*awanga ya*).

If the wind blows hard from the southeast, then moderates and swings round to the northeast, this is a sign that flying fish are abundant. When red streaks appear to shoot up to the middle of the sky at dawn, this is a sign of heavy rain and hot weather to come. A halo or house round the sun (*te wale no te la*) signifies heavy rain on the following day.

If Yina, the woman in the moon (*maina*), is clearly outlined and easily seen, this means fair weather; if she is dark and obscure, a heavy sea will make fishing difficult. The crescent of the new moon turned toward the north means fair weather throughout the moon; the crescent turned to the south is a sign of bad weather; the moon lying on its back presages hot 821 weather. An eclipse of the moon or sun (*maina kaina, la kaina*) is caused

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ECONOMIC ORGANIZATION

CONTROL OF WEALTH

471 421 731 621

In former times, the island as a whole apparently did not function in the control of land, reefs, or other native wealth. Today, however, there are on Wale five talo beds (*ui*) which are controlled by the island. These are termed *ui wenua*. After the tidal wave of 1914, the Island Council divided some of the talo lands owned by the maternal lineages among all the people of the island in order to tide over a temporary food shortage. These lands have remained under the control of the whole island since that time. Their names are: Ui lua wunui (2 beds), Ui alapai, Ui kolonui, Ui angatonu.

In economic matters today as formerly, the ultimate controlling units are the village groups. These are independent of each other and may utilize their lands and reefs in any way they wish; in practice, however, they all conform to the same pattern of control.

VILLAGE PROPERTY

REEFS

423 621 226

The barrier reef (*te ayanga loa*) and all fishing grounds on the reef, inside and outside the lagoon, are divided among the villages as follows:

The reef from Wale to Matautu, the northern point of Motu Ko, belongs to Ngake; no men or canoes other than those of Ngake are allowed on or near this part of the reef. The reef between Matawea, the western point of Motu Ko, and Motu Kotawa is divided into halves (*itu*), one half belonging to Ngake, the other to Yato. The reef fishing from Motu Kotawa to Wale belongs to Yato, but because lagoon fishing in former times was controlled by Ngake, the men of Yato could fish only outside this reef. Without permission from Ngake villagers men of Yato could not go to their reserve by canoe across the lagoon but had either to coast along the outside of the reef or to walk along the reef shelf. The outer, northern reef, running round the reserve of Niua (the northwestern side of Wale) as far as the boundary of the Loto reserve of Uta, was controlled by Yato; the outer reef from this point to the eastern boundary of Uta was controlled by Loto; the rest of the reef running past Utupoa to the main reef was controlled by Ngake. Each village had the right to the beach and lagoon fishing on its own shore (*lukuiai*). The rest of the lagoon away from the village frontages belonged to Ngake.

476 431 784

The control of reefs, though apparently weighted heavily against the village of Loto, worked with a certain flexibility. The men of Ngake announced at frequent intervals to the men of the other two villages that they might fish in the lagoon for one moon. At the end of the period the lagoon was tapu for all save Ngake men. All economic tapus (*lawi*) were supported by supernatural sanctions. The two villages benefiting by this generosity took gifts of food, usually nuts and talo, to Ngake in payment for benefits received. Special gifts were sometimes given as when Yato made an expedition to Motu Kotawa and returned with extra supplies of *takupu* birds (tern).

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The open sea opposite each reef was controlled by the village owning the reef and only men from that village might go deep-sea fishing there. As the canoe channel on the western reef was controlled by Yato village, men from Loto and Ngake had to receive permission before taking their canoes across the break (*avo*) in the reef at this point. This was a frequent request, for the only other break close to the villages is on the north-eastern side of Wale, rarely as sheltered and manageable as the western side. Permission was given as a matter of generosity. Trespassers in the fishing reserves of other villages were punished by fines in nuts levied by the guards (p. 37) of the village whose reef was violated.

Before the causeway (*kolo*) was built across the western arm of the lagoon on Wale, this lagoon indentation was considered a part of the reserve of Niua. After the causeway was constructed, Yato village still retained control of the "bay", and turned it into a fish pond. It is simply called *te loto*, the name for any enclosed water. This pond contains many *avo* fish (white mullet), which fatten on the algae growing on the lagoon bottom. The fish are tapu for most of the year, but at certain arranged times, generally at the end of each month, the pond is opened to fishing parties from Yato for one or more days. Fishing is sometimes an individual matter; at other times all the men of Yato fish together on the same day. The catch is divided among all the people of the village. Some of this fish finds its way through gift to other villages, but the sole right to fish in this pond is jealously guarded by Yato men.

LANDS AND BOUNDARIES

The land on the three islets is divided among the villages. Each village retains control of the lands specifically set aside as communal village lands. The rest of the land within the village boundaries is controlled by the paternal and maternal lineages. The village boundaries (*tuakoi*) on Wale are shown on the map (fig. 1, *b*).

The present boundary lines between the villages date from a period just after the great seismic wave of about 300 years ago. After this catastrophe, in the reign of the chief Maina or of his successors, Tulisyanga and Alatakupu, it was decided to realign the boundaries to take care of population growth. The technique used is called *tutuki*, a form of stick wrestling. A weapon (*kaio*) of *nutau* wood, about 4 to 6 feet long, is held by two men facing each other, each trying to push his opponent backward. The boundary advances or retreats according to the position of the weapon. In the contest in question, all three villages participated, lined up along a provisional boundary running from lagoon to outer beach near the present church.

Loto faced Yato on the west and Ngake on the east. Before the contest commenced, the high chief (*aliki uolo*) went to the sacred place of the goddess Tana and requested

1. [See p15, category III—analyst]

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625 562 thought that the men's guard was consuming privately from the reserve more food than it was preserving, the old men of Loto arranged that the men should serve for six months only, and that adult women should serve as guards for six months of the year. The rationalization was that the women would not be so expert at climbing nut trees as the men, and that they could devote spare time to talo cultivation. Hence in Loto today, the men's guard serves from January through June, each man acting for three months each year; the women's guard, two groups of 30 women each, serves from July through December, each woman also acting for three months each year. The Yato guard consists of men only, about 25 men for each guard. With 50 men in Yato village, each man serves for six months each year, usually in alternate months.

625 561 226 Six watch houses (*uale palenga*) are scattered through the reserve of Uta. The guard is divided into six groups (*taka*); a group of four men or women watches from each house for one month, then moves in rotation to the next house, shifting houses thus each month. The single watch house in Niua at the head of the fish pond, the site of the former lagoon gate to the reserve, is used by the Yato guard as its headquarters.

There is a tendency in Loto to group the members of each guard according to age grades. Thus one guard will comprise the oldest men, the following one middle-aged men, and so on.

Much friendly rivalry exists between successive companies of guards. In Yato, at the end of every month, the guard fishes in the pond for the benefit of the entire village and much is made of the fact if one company catches more mullet than the preceding company.

625 241 The monthly guard change (*te ninga pule*) is accompanied by a division of food from the reserves among the people of the village.

262 In Loto a division of drinking and mature nuts is made. In Yato nuts and, in season, papaya and limes procured from Motu Kotawa by guards who make a special trip to obtain the fruit are divided. The guards under the supervision of older men gather the nuts from Niua and Uta. The change of guard in Niua on January 9, 1935, was marked by the following typical food division: each man, woman, and child on the village rolls received two drinking nuts; the 48 women of Yato received papaya at the rate of one for every three women; 79 children received papaya at the rate of one for every four children. At other times, the division included men and not women, or men and women and not children. The conclusion of the month's guarding is accompanied also by a small division among the guard of fish caught by delegated members of the group and of talo foods prepared by their wives and relatives.

625 245 244 The duties of the guard are to patrol the reserve throughout the day and keep away thieves; to preserve the nuts, pandanus trees, and other flora of the reserve from depredations; to keep wandering pigs and chickens from destroying the talo beds. They put tapus (*lasi*) on young nut trees by tying coconut midribs round the boles of the trees. Formerly the breaking of such a tapu was punished by the gods of the reserve; today a thief 694

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poke about under the piles of fern and look into the corners of the canoes. The women are given permission to bring back a few nuts for their own households. All the nuts in the canoes are removed to the beach by the guard, counted out one by one, and (nowadays) the total written down on paper. Once when the guards doing this were two youths who had just attained adulthood (*sukaiana*), it was amusing to see the way they officiously examined the canoes of two elderly men who had gone to Motu Kotawa with the women. The older men, though obviously annoyed with the inquisition, did not dare to make any comment. It is only after the canoes have been given a clearance at this beach that they are allowed to proceed to another beach, nearest to the talo beds, to unload the cargoes of fern leaves.

When a village meeting decides that the villagers shall go to the reserves Ko or Kotawa, for a period to work the talo beds or to procure nuts, the matter is announced to the village by the guard, because it is the guard that oversees this visit and makes sure that none brings from the reserves more than the agreed amount of foods. A typical announcement of this nature, made in Ngake, which has extensive talo beds on Motu Ko, is:

Wakalongolongo mai lotou ki te vasenga ko ovatu ki to tatou lulu. Ka wo lua tatou ki te motu. Ko tatou mea ka tumai: E takiyaea te niu papaku, e takiyepulupulu te niu. Yau ma mea a te tinou ka aumai: E takimatawelau te wawa. E takiyepulupulu te tamaliki. Ke wo tatou ki te motu nei, e ya te kaveu, e ya te ngongo, e ya te lakia, e ya te kaka ia, e ya te lupe, e ya te laipea, e ya te anga, e ya te wuai, e ya te ngangie. Ko te wai mea ia e wakayatia i to tatou motu. Ka nono tatou i ai e witu po, womumai lua tatou. Oti ai.

Listen you to the report to be given to our village. We shall go to the reserve. These are our things we shall bring back: 20 mature nuts each, 10 drinking nuts each. Next the things of the women which they will get: 100 tubers of talo each. For each child, 10 drinking nuts. When we go to the reserve, the crabs (enumerated) and the birds (enumerated), bananas, and *ngangie* wood will be tapu. These are the things to be tapu in our reserve. We shall stay there for seven nights, then return. That is all.

Throughout the stay on the reserve, the guard reports each night the events of the day, makes sure by inspection visits during the day that the tapu foods are not being touched, and when the time comes to return, goes from house to house, counting the nuts piled up ready for the return trip. Visits to the reserve of Ngake were formerly made on such occasions as follows:

At times fixed by the chief of Ngake and the council of men, all the men would go to Motu Ko to collect nuts and to fish. Young men wishing to go to the reserve at other times to set birds or for whatever purpose, had to procure permission previous to the visit. At one time, it was customary for parties of three or four men to be given permission to fish from the outer reefs of the reserve. Permission was granted for a three days' stay only, and if the men stayed longer than this period, they were automatically considered thieves and treated as such on their return. At other times, at a meeting of the chiefs of the island, men of the other two villages were given permission by Ngake to go to Motu Ko for a set period in order to fish from the reefs.

1:Beaglehole and Beaglehole E-5 (1934-5)1938 Pukapukans

226 This was a return for courtesies rendered to Ngake men by the other villages, particularly deep-sea fishing privileges off the western reefs of Yato.

That the reserves are well guarded is evident from two incidents:

625 In walks over the island with Yato informants, amazement was always expressed
152 in their faces when I casually proposed taking a short cut to our objective across the
521 reserve of Loto. Even though I thought that my presence was sufficient evidence that
123 my informants were not likely to steal nuts or talo from the reserve, informants never set foot on the reserve without finding the nearest guards and informing them that their visit to the reserve was in my company only, and not for illegal purposes.

On one occasion we were taken to Motu Ko in a Yato canoe. The Yato men took the opportunity to inspect the reserve thoroughly before going on to Motu Kotawa. This was the first time that some of them had set foot on Motu Ko. Ngake friends were continually urging us to pay a visit to Motu Kotawa that they might visit Yato's reserve as canoe crew. When we finally went to Motu Kotawa, Ngake men launched the largest canoe available, and there was keen competition for the privilege of being one of the crew. Even old men, almost incapacitated through age, made a point of being fictitious crew members on this day, and during our few hours' visit on the islet, the Ngake men inspected every nook and cranny of the reserve, appraising the amount of nuts on the trees and the number of roosting birds with critical eyes. The results of the survey proved a topic of excited conversation for many days thereafter.

621 The villages have retained exclusive control over village reserve lands
685 throughout Pukapukan history. At one period, however, in the reigns of
421 the two chiefs after the seismic wave, the system of village control was
361 temporarily in abeyance. In order to prevent widespread stealing, the law of *pule pae* was decreed whereby the guards had the power to kill by strangulation or drowning anyone caught stealing food from the reserves. Though centralized in one locality at this time, the villages still retained separate identities. Each village unit furnished a guard for the reserves. Accord-
625 ing to the severity or laxity by which these guard units enforced the law they were named: Te Pule-Wala-o-Yila-Wua (Pandanus-that-glitters-only), the guard of Ngake; Te Pule-Tuli (the Tuli bird guard, or the guard that chases), the guard of Loto; Te Pule-Wala-Mangeo (the Guard-of-bitter-pandanus), the guard of Yato.

The guard of Ngake was kind-hearted because the people of Ngake had opposed the passage of the law of *pule pae;* this guard allowed thieves to escape from the reserve, thus earning the name of pandanus that glitters only but does not sting or catch people with the thorns of the leaves. The guard of Loto carried out the letter of the law, and allowed none to escape; they caught people as the *tuli* bird is caught in a trap. The guard of Yato was also strict, so they were named after pandanus that catches people with the thorns of the leaves. It is said that if the Ngake guard saw a man tarrying at the boundaries of the reserve, they told him to hurry inside, take what food he could, and hurry away while they turned their backs on the infraction of the law; that the Yato guard killed law breakers at once, and that the Loto guard killed them on the next day.

625 Besides accounting for the law breakers, the guard collected nuts and fished for
221 food to divide among all the people. This was done by the guards stationed on Wale,
245 on Motu Ko, and on Motu Kotawa. Other members went through the village each day to see that everyone was accounted for. Those missing had to prove that they were

1:Beaglehole and Beaglehole E-5 (1934-5)1938 Pukapukans

not illegally fishing and that they were not stealing from the reserves. Incidents of this period are told in the stories of Tuiva and Kupolu, and in the story of the *pulu pae* (pp. 387, 395).

Numerous references in the stories and traditions of the island show that stealing from the reserves was an ever-present problem that challenged both supernatural and secular supervision of these reserved areas. The only major sin in Pukapukan society seems to have been stealing from the reserves; beside this, all other types of antisocial conduct become mere peccadillos. Where the law breaker meekly accepted punishment, secular or supernatural, all was well, but a thief surprised by a guard and resisting arrest either in shame or in desperation might be killed outright in the succeeding brawl. Several ancient graves on Motu Ko are still pointed out as the graves of thieves who were surprised on the reserve and killed.

TALO BEDS

The center of the reserve of Uta is a communal talo bed controlled by the village of Loto (pl.1,*B*). This large area is subdivided into 11 smaller areas (*si lulu*), named after nine land divisions in the reserve. There are four similar *si lulu* in the reserve of Niua. The people of Ngake have more than 15 large talo cultivations on Motu Ko.

Tradition states that the main talo beds on Wale were formed originally by Tumulivaka, son of the god Mataliki. Tumulivaka became troubled in his heart at the number of gods who were taking up residence on Pukapuka. He wished to be separated from the gods, so he stood at Te Auma, the northern point of Wale, and stuck his foot in the sand. This made a big separation or channel in the land from Te Auma to the pond, Te Vaitave, in Ngake village, and thence to the sea. As this follows the line of the present talo beds, it is common to refer to these beds as Te Akanga-vae (Striking-of-the-foot). Mataliki with his wife and the gods lived on the western side of the division, *te muli uvuna*, so called because it faced the setting sun, while Tumulivaka and his sister, Te Matakiate, lived on the eastern side, *te mata uvuna*. As the island became more populated, this natural excavation, widened and deepened in places, was used for talo beds.

It is probable that the first migrants to the atoll found natural hollows in the land, caused by wave action when the atoll was being built up above sea level, and used these hollows as the basis for the talo beds. Successive generations continued the work of excavation, no light task with coconut shells, coconut baskets, and digging sticks as the only implements. Subsurface water seeped in and rain water helped to rot the artificial fill of dried coconut midribs, *kotonu* ferns, and other plant material into a humus soil, which became in time excellent soil for talo cultivation. The results of the excavations are seen in the raised embankments (*tua motu* or *tua si*) which follow the line of the talo beds and divide one bed from the next. That natural hollows were first used as beds is indicated by hillocks about 40 feet high running beside some beds. It is impossible to imagine that

people other than blood members of the lineages would come to live on the sections. To protect the food supply of its own blood members, the lineage might well make the rule that certain nut trees were to be shared among all associated with the constituent lineages through blood, marriage or choice; whereas only members of the lineages by blood or adoption might plant and own trees on the *kauva* section. This would prevent the removal of wealth from blood members of the lineages by friends and distantly related affinal relatives, who might come to live on the section. The land is thus effectively owned in common by the lineage corporation, though sole right to the produce of the trees remains with individual members of the corporation.

Both paternal and maternal lineages, the *po* and the *uua*, control small sections of talo beds. There is no legend as to the origin of this control. These beds were probably dug first on land controlled by the paternal lineage or by the maternal lineage if the maternal descent group was originally a more important unit of social organization, as evidence seems to indicate. Then, as new paternal or maternal lineages were set up by the breaking away of men and women from the basic groupings, certain talo lands were transferred to the new, minor lineages, from those controlled by the major group. The twenty-three talo gardens on Wale owned by the paternal and maternal lineages are all named. These gardens are divided among male and female members of the lineages. In the next generation, children retain a share in the mother's maternal lineage beds, but receive no shares in the mother's paternal lineage beds. Similarly, they retain shares in the father's paternal lineage beds, but none in his maternal lineage beds. The talo lands are controlled by the lineages as corporate entities, and are redivided from time to time to include new members of the corporation.

Individual Property

The wealth objects controlled by the individuals are few. A man may own a house and a house site, a canoe, fishing gear and implements, clothing, pearl-shell ornaments, trees, and talo beds. A woman owns mats, prepared pandanus, ornaments, trees, and talo beds. Small canoes, one-piece dugouts or plank canoes, are owned outright by one man. Larger canoes which have required much time to make and wealth to finance are owned by household groups, or groups of closely related kin. The oldest man of the kin group is spoken of as the nominal owner of such a canoe, but all the members of the group refer to it as "our canoe". If relatives or friends wish to use the canoe, they ask permission of the nominal owner. A young man who does not possess a canoe of his own borrows one from a friend. When the fisherman returns, he gives fish, usually the best and biggest of his catch, to the owner of the canoe in payment for its use. The fish reserved for this payment is termed *ika ya* (sacred fish). When one man is invited to accompany another in a fishing canoe, there is an equal division of the catch and no payment of *ika ya* is exacted from the guest member of the canoe.

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512 221 It is almost impossible to give an account of a typical daily economic routine for men and women. Activities vary greatly in terms of nights of the moon, conditions of tide and weather, number of members in the household and their ages, the occurrence of deaths, births, and marriages, and nowadays the day of the week. Fishing is governed almost entirely by moon and tide conditions; one day a man may fish early in the morning, the next day, late in the evening, and on a third day, he may fish all night and not at all during daylight. Deep-sea fishing is more frequent toward the end of the week, when it is necessary to lay in supplies to cover the workless day of Sunday, and just before feasts. Where there are several adult members of the household, some men fish while others gather nuts and work around the village. Where there is only one male in the household and several small children, the father is busy all the time with the most varied activities. The amount of cooking done by the woman depends on the amount of fishing done by the male members of the household, the occurrence of feasts, and the day of the week. The woman goes to her talo beds about twice a week to cultivate and to fetch talo for cooking. Cooking is simple at the beginning of the week, but for the weekly Sabbath feast much trouble is taken and cooking goes on for the most of the preceding [285] day. Wet weather is best for mat making because the pandanus elements become soft and pliable. Continued rain throughout the day sends a woman to her plaiting, no matter what else she had previously planned to do.

Organization of Work

476 226 285 The main occupations of Pukapukan economic life—fishing, house building, cultivation, canoe building, and today copra making—all require some form of cooperation, whether of a simple or complex type. The determining factors are the type of work, kinship, locality, and sex. The size of the working group depends on the importance of the event or the magnitude of the work. Deep-sea fishing, mat making, and cooking can be performed with only a simple combination of labor, that is, all workers carry out the same activities. The fishing may be simply cooperative, as when men from one or more households fish together to provide food for a prospective feast, or competitive, when the men of each village fish together as a group in competition with men from the other villages. Mat making is usually done by only one woman, but when the household supply of mats is depleted and it is necessary to make mats for a coming wedding, a woman invites her friends or relatives to participate in a small working party. Several women come together and each works on a section of the mat, or else one takes over the plaiting when the first worker tires. The workers are fed during the time they are assisting in the task.

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Typical activities which involve complex combination of labor are bonito and flying-fish fishing, seine fishing, house building and thatching, canoe making, talo bed excavating, and today copra making. Bonito and flying fish may be fished by a small group of friends in one or two canoes, or else may involve village cooperation. Some men in each canoe are paddlers, others the netters or rod wielders. Women relatives provide the food for the crew. Seine fishing is carried out by groups of men, usually by a village group. When the net is used on the reef controlled by another village, however, men from this village also participate and share in the fish division. House building involves complex household or village cooperation, depending on the building constructed, whether for use as a private cook or sleep house or for a village meeting house or reserve land guard house (p. 76).

Canoe making is the work of an expert canoe builder and a number of assistants whom he directs. The group for whom the canoe is being built provides the food for the workers and makes the gifts that recompense the workers at the conclusion. Talo beds are excavated by men and women, the men doing the heavy digging, the women carrying away the sand and coral. Copra making is a village undertaking, involving both men and women. During the stay on the reserves, men and women collect and husk the nuts; older people and women split the nuts; men and women put them on the drying platforms; and children and old people later remove the copra from the shells. The men transport the copra to the villages and store it in village-constructed storage houses to await shipment.

Work is initiated by those who experience needs and require assistance to fulfill them. The needs may be biological, such as the need for food or shelter, or else social or ritual, as in the preparation for feasts, the building of village or religious houses, and village competitions. Village work is initiated by the informal village council, by inter-village discussions, or by household heads who anticipate the occurrence of large feasts. Specific works which involve the welfare of the village as a whole, such as copra making, the care of village talo beds, or preparations for village contests, are controlled by the guards (*pule*) acting as executive agents for the village. The work is so organized that all have specific tasks allotted to them. The guard sees that the work is carried out and is up to the required standard of efficiency. In work on the village copra storehouse for example, the guard arranges for some men to fish for the village workers and for the women to prepare talo to feed the workers; the older men so arrange the work that those best skilled for certain tasks are given the direction of these tasks and are adequately helped by less-skilled workers.

The native Pukapukan pattern functioned in typical fashion when the people made the collection of material culture objects presented to Bernice P. Bishop Museum.

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Te malu, te malu, te malu	The weak (one, "softy"), the weak, the weak,
Te wewei, te wewei, te wewei,	The lazy man, the lazy, the lazy,
Tuku loa ki te vananga	Given (out his name) in the report (of the guard)
Puke atu enuenu pe te poi[6]	Overtaken (by laziness) squashy like pudding,
E kou yinga wua ia.	Flops down completely.

Fishing

General Features

Information on fish and Pukapukan fishing methods was obtained mainly from Veti and Eliu. It has been supplemented by general observation of some of the fishing techniques described. The material is not only interesting to the student of comparative Polynesian fishing methods, but it also gives an insight into the amount of control exercised by the Pukapukan fisherman over part of his environment. This control is much more complete than the following information suggests, because the actual amount of information collected represents a mere surface-scratching of the knowledge possessed by native fishermen. Two other limitations, imposed by lack of time and by comparative ignorance of the field worker in all that concerns fishing, conspired to prevent the collection of complete data on Pukapukan fishing. The classifications adopted in the following sections are those used by informants in presenting the material. Identifications of native fish names are given elsewhere (pp. 27-31).

The waters within and without the reef are used equally in fishing. The inner waters of the lagoon are combed over and over again each day by all the methods of lagoon fishing. Deep-sea fishing outside the reef is indulged in at least twice a week, depending on the amount of other work to do, the state of the sea, the winds and the weather, and the season of the year. Deep-sea fishing is relatively poor from November to March. In former days the amount of lagoon and outside reef fishing a man did depended also on the village to which he belonged. The division of reefs and lagoon among the three villages and the exclusive control exerted over these properties meant that the men of Ngake and Yato could fish more extensively than the men of Loto.

The habits and movements of all the fish were studied and correlated with the rising and setting of certain named stars (p. 350). All parts of the reef, inside and outside, as well as the lagoon deeps and shallows, are well known in terms of fish habits. Names for sections of the reef and for the parts of the ocean immediately outside the reef are given in figure 3.

[6] The closing syllables, hence the use of the Tahitian *pua'i* for pig (first song) and *poi* for pudding (second song).

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226 The Pukapukan fisherman never does random fishing (*yi ika*). If asked where he is going, he replies, "Ka wano au yi kaloma, yi kakai, yele pala. . ." (I am going to fish *kaloma*, to fish *kakai*, to noose *pala*. . .); he is always going to fish specific fish. If the particular fish is caught in more than one place, he usually tells where he is going to fish. It is rare for a fisherman to return from an expedition with conglomerate varieties of fish. He usually brings home fish of a few related varieties that were all caught by the method he proposed when he first set out.

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FIGURE 3.—Cross section of reef rim: 1, land, *wenua*; 2, lagoon, *alo*; 3, inner side of reef shelf, *tuwatawa*; 4, reef shelf, *ululu akau*, the reef circuit being termed *ayanga*; 5, surface water, *hilitai*; 6, sub-surface water, *waiti*, 3 to 10 fathoms deep; 7, deep water, *puonganutu*; 8, lower, outer reef shelf, *papa o te akau*; 9, greatest depth of water, *yolo-onganutu* (also called *newu*); 10, ocean floor, *papa o te moana*.

226 Men are customarily the fishermen, but women do beach angling, groping, shell fishing, and assist in torch fishing inside the lagoon. Turtle, *kakai*, *akula*, *atu*, and *pala* fish were formerly always taken to the meeting place (*malae*) of the old men's group (*tupele*) for division. These fish were caught by the young men's (*tanganga*) fishing group or by the fishing group of older men (pp. 67, 281). The old men divided these fish among the people of the island. If the *tanganga* men caught 30 *kakai*, the old men kept 10 for themselves, gave the chief special cuts from the body of the fish, and divided the rest equally among the people.

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226 Certain habits are characteristic of all fishermen. In reef angling, beach angling, and submerged reef fishing, the fishing basket is held between the legs. The mouth of the basket is invariably tied with coconut fibers to prevent loss of the fish, if by chance the basket upsets or falls into the water. In reef angling, where the fisherman moves about, he often ties the basket to his belt or suspends it from the shoulders. In beach angling, especially for *kaloma* fish, the fisherman sits on a coconut husk, a coconut midrib, or a stone. When he is fishing for *kaloma* and the fish are biting fast, he throws the catch down on the sand beside him. It is important not to waste time under these conditions, because the fish are soon satiated with the chum (*katikati*) thrown to them. But when fishing for *kaloma* to be

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used as live bait, he places the basket in a little hollow scooped out in the sand, half submerged in sea water. In spearing, torching, clubbing, and the modern method of iron spear catapulting, fish caught are tied together with cocoanut fiber (*kalava*) passed through the gills. The fish are laid on a convenient coral head when the fisherman moves or dives. To carry them greater distances, he strings them around the waist to make a malo of fish (*malo ika*) or loops them over the arm. Chants which celebrate the winning of fishing contests make frequent reference to the men coming home with strings of fish around head, waist, and shoulders.

The following list gives several common terms employed in fishing.

Tukutuku or wakayeke: to pay out a line.
Wuwuti: to pull in a line (general); to pull in a short line with overhand strokes.
Tupe or langa: to pull in a long line with long overarm strokes.
Totoi: to take the strain on a line when a fish is fighting and cannot be pulled in.
Wakamatala: to jerk a line to disengage the sinker.
Tae: to net fish in the air or to make an outward sweep of the net.
Toli: to make an inward sweep of the net to scoop fish into the canoe.
Yoka or momono: to plunge the net into the water with a downward sweep in order to net a fish.

A lazy man who does not go fishing is termed, in ridicule, *atua wawine* (female god), because he seems more concerned with the sphere of activities presided over by female gods who never interfere with the fishing pursuits of men. Another expressive phrase used to describe a bad fisherman is: "Ia koe i te mauru kava" (You have a bitter bait).

In general, bad luck in fishing is attributable to the breaking of tapus or to the domestic circumstances of the fisherman. If a wife commits adultery while her husband is out fishing, he will have bad luck; formerly he might repair his luck by prayers to his god. If a man quarrels with his wife before fishing or if he goes fishing while there is a corpse in his house, he will be unsuccessful (*ka kaya*).

Before going fishing in former days a man was careful to pray to his god or ask the priest of his paternal lineage to pray to the lineage gods for success in his undertaking. When a man went fishing for special fish, controlled by certain gods, he always prayed to these gods and again to the gods that control the winds. As his canoe passed the place where the sacred clearing (*vienga*) of an ancestor god was visible, the fisherman stood up in his canoe and prayed to this god that he might procure plenty of fish and lose none of his pearl-shell hooks. Canoes going deep-sea fishing off the western side of the atoll, especially when trolling for bonito, always stopped opposite the stone of the god, Malokitelangi, near the western reef channel to leave on this stone a gift for the god—a malo, some sennit, or a fish-hook. The gift (*uakatetea*) was later removed from the stone by the priest

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226 of the god and placed in the god house. These prayers for good luck survive today in the prayer meetings that are held in the several villages before the fleets set out for a fishing contest and in the prayers that are said at sea before the first line is thrown overboard. In the story of Pania (1) a fisherman gives some fish to his god after returning from an expedition, in order to thank him for his services. Informants were unable to state whether this was a common custom in former days.

226 A curious story is that of the man Taewa who became a successful fisher-
304 man even though he did not observe any of the fishing tapus:

784 Taewa tried many times to be a good fisherman, but without success. Disgusted with himself after many years of effort, he decided that the only way to improve his fortune was to circumcise himself. He was the first and only Pukapukan man to do this. With a clam shell, he made a longitudinal slit in the foreskin, then slashed the skin till it hung in tatters. The wounds healed, and ever after Taewa had good luck in fishing. So fortunate was he that he could afford to disobey all the fishing tapus without suffering any penalties from the gods. He named the Black Nebula below Crux, Te Paniwi, because the shape of the nebula reminded him of the shape of the *paniwi* fish. Some say that Taewa was protected by a spirit in this nebula when he broke tapus, though none knows how this protection was exercised. Others say his luck was due to the fact that he always fished when Te Paniwi rose above the horizon and not at any other time. None could explain the effect of his voluntary circumcision upon fishing luck.

225 There was no method of catching whales. When a whale was stranded
776 on the reef, a call was sent through the three villages. The women rushed off to the talo beds to bring back talo which they prepared for the men who went to cut up the animal. The work of cutting up was supervised by a priest of Te Maungatu, the god who was supposed in some ill-defined way to control the stranding of whales. The blubber was divided among all the
237 people of the island. The vertibrae were used as seats; no use seems to have been made of the whalebone.

SIMPLE METHODS

226 Ill-defined methods of fishing—stone throwing or stone clubbing, stepping on fish, hand scooping, and hand flipping—are employed only incidentally to other activities.

Stone throwing (*hamu hi te watu*) or stone clubbing (*patu hi te watu*) is performed by a man walking through the lagoon shallows who sees lagoon fish near by, often sleeping undisturbed at his approach. Fish killed by this method are yellow snuffet, rock groupers, parrot fish, and flounders.

When a man fishing other lagoon fish comes across a flounder resting on the bottom, he makes a quick jab with his foot to pin down the fish, then picks it up, and kills it by biting it behind the head.

If a man sees a fish resting close by but can not find a stone or stick with which to kill it, he approaches quietly and, quickly dipping his hands into the water, scoops the fish onto the beach. This method is often successful with *tamayei*, *tufoufou*, *tautau-*

1:Beaglehole and Beaglehole E-5 (1934-5)1938 Pukapukans

226 *ama* fish, and especially *uu moemoe* which never move at the approach of a fisherman or a canoe.

Flipping is employed for *katu* and *katutua* fish, usually by children. A piece of *unga* crab meat is tied to a coconut husk with a strip of fiber. The husk is held in one hand and lowered into the water. When the fish bites, the husk is flipped from the water with the fish on it. Another technique is to tie crab meat to a length of coconut fiber and jerk the fiber from the water when the fish has the bait in its mouth.

The wooden fish club (p. 189) is used to kill large deep-sea fish as they are hauled into the canoe. It is also used as an adjunct in seine netting, all types of reef fishing, and torch fishing. One who finds fish stranded in shallows of the lagoon or beach may club them to death with a wooden club (*patu ki te lakau*). Fish commonly killed in this way are *vete, manini,* squid, and angler fish.

GROPING, SPEARING, TORCH FISHING

Groping (*tulituli*) for reef fish is done by men, women, and children, mainly during the full moon and spring tides. Fish spearing (*yoka ki te tao*), formerly done with a wooden spear (*tao ika*) or with a rough spear made by pointing a stick of *puapua* (*tao puapua*), has been largely superseded today by the introduced method of catapulting a light, pointed iron rod. Torch fishing (*lamalama*) is done on dark nights by two men, or a man and wife, or a young man and woman.

1. Groping. Each person takes with him a basket (*ola*) and a fish spear (*tao ika*) or a piece of sharpened *ngangie* wood about 3 feet long (*yukiyuki*). He gropes about with his hands in the branching heads of the antelope coral, in crevices, reef channels, and pools of the reef shelf (*ulualuakau*). When he comes to a deep crevice, he gently pushes his stick towards the hole to make the fish come forward and bite. If he sees that the fish is not dangerous, he grasps and kills it with a bite behind the head; if it is not safe, he spears it or leaves it alone. Groping at high tide, the fisherman submerges and swims under water to explore deeper holes.

Artificial rock piles (*au mutu*) are built for basket groping (*tatu ki te ola*). Piles of stones are placed in appropriate parts of the lagoon, about 35 yards from the shore in shallow water. A large slab of coral conglomerate is supported by four smaller stones, and the whole covered by other stones. The pile is left for about two weeks, when two fishermen return with a cone-shaped fishing basket and a coconut-leaf mat (*polapola*). They place the basket (*ola*) close to the pile and surround both basket and rock pile with the mat. One man knocks aside the smaller stones and larger slab and drives the fish into the basket. They close the basket and replace the stones before proceeding to the next *au mutu*.

A basket is also used for the ordinary method of groping under coral heads. One fisherman holds it near a crevice while the other beats the water or pokes into the hole to drive out the fish. Children are adepts in the use of this method; their mothers or sisters make them small baskets for catching the smallest reef fish. Fish caught by the groping method are: *manini* (about three times each year, when very young), *ecu, mullibi, taleo, katiuu,* all the parrot fishes, *lumi, pakecu, pecu, lalauutu, lai, umc, palangi, malau, hayuye, uu, mailo, ngatala, tangau, tunaelenga, mutunga, mumu, malau, kokili, kili, mmalenga, pimu, uvive, wiiwiiti, yoyala, palauli, piopio, matacle, lali, papa,* and *yilou.*

2. Fish spearing. Save for one or two fish, spearing is carried out in the shallows

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of the lagoon or on sandy bottoms close to the beach. The following fish are commonly speared: *pula, ali, pateletele, ulua* (a deep-water fish speared outside the lagoon), *tupoupou, taotaoama;* the eels; the trigger family, deep-sea members of which are sometimes found inside the lagoon; *witiwiti, poyalo, palu uli, piopio, matoele, lali,* and *papa.* The various rays are speared with a *tao,* to the base of which a sennit cord is tied so that the spear will not be lost.

3. Torch fishing. Torches (*lama*) are made late in the afternoon preceding the fishing. Two dry coconut midribs are used for the reef fishing torch (*lamalama akau*), three midribs for the *malau* fishing torch (*lama malau*). To make the reef fishing torch the broad butt is cut from each midrib. The first midrib is laid on the ground, dull side (*tua,* back) down, the smooth side (*mulivakevake*) facing upward. The second midrib is placed on top of the first, the dull side of the second leaf next to the smooth side of the first. Starting from the butt end, the worker gathers together with both hands the leaflets for a length of about 18 inches. Holding these with the left hand, he takes with the right hand two leaflets from the underneath leaf and twists these several times around the gathered leaflets of both leaves. Then he picks up with the left hand two leaflets from the top leaf and twists the first two leaflets three or four times around the second two leaflets and buries the twisted leaflets under the general gathering of leaflets. He gathers up all the leaflets for a second fastening about 18 inches from the first, and proceeds thus until he has made a compact bundle. When fired, the torch burns down to the fastening and then smoulders. The buried leaflets are then loosened by a shake or by a flick of the hand and flame up again. To dim a torch by lowering the head and then make it flame again by raising the head is termed *wakapulapula.*

Of the two fishers, the assistant holds the torch and carries the spare ones so that the fisherman is free to catch the fish. The light of the torch shows the sleeping fish or attracts them to the surface, where they are speared or clubbed to death. The partners progress along the reef shelf, probing with the torch on the inside of the reef. The fish caught are strung together on a coconut fiber or placed in a basket. Fish caught by reef torch fishing are: *kaloma, ie, maono, wakiki, mayi, kanae, uloulo, kotimu,* parrot fishes, and all the reef fish caught by reef groping.

Torching is also used in catching flying fish and *malau* (p. 58) and for canoe fishing outside the reef (*pi wakapulapula*). The canoe is either stationary or allowed to drift slowly down the reef. A torch is held by one member of the canoe crew to attract to the canoe such fish as night-feeding cangaroids, barracuda, dog fish, and tuna. The bait and hook used depend on the type of fish to be caught.

WEIRS AND SWEEPS

The walled stone fishweir (p. 159), used for catching reef fish in the shallow waters of the lagoon, is called *pa watu ika* or *tawenga*; the method of using it, *tali tawenga*:

The weirs are placed in the reef shallows at places where the water at ebb tide is not more than 1 foot deep. The fish come inshore from the reef at high tide. At the ebbing of the tide, when they are carried out again, the exit of the weir is blocked with a scoop net (*tae yaka*) or with a cone-shaped fishing basket (*ola wuli au*) weighted down with a stone. The fisherman watches the course of the weir and has his net or basket ready when the fish enter. His partner beats the water behind the fish and drives them to the exit. The mouth of the basket is closed as soon as the fish enter and then the basket is raised from the water. The fish are lifted out, transferred to another fishing basket, and the basket reset for more fish.

Stone weirs are the property of the village on whose stretch of lagoon shallows they are built. All men of the owning village use the weirs freely at any time. Fish

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226 caught with the stone weir are: *unaliki, talae, lupo, paketu, lalauutu, lai, ume, palangi, maleua, kayuye, ma, maito, avu, hiokiotai, atule, yoyale, palu uli, piopio, matacle, lali,* and *papa.*

227 Coconut-leaf weirs (*pa lama launiu*), less permanent than stone weirs, may be easily moved about the lagoon shallows according to the running of the fish:

To make a weir, dried coconut midribs are split longitudinally. Three or more half-leaves are placed on top of each other, and the leaflets gathered together and tied with *kalaue* coconut fibers. An appropriate section of lagoon or fish pond is chosen and stakes are driven into the bottom in pairs. The space between the two stakes of each pair is about 18 inches, and the series of pairs are about 6 feet apart. A sufficient number of pairs is set up to give the required length to the wings of the weir, the base toward the beach and the exit toward the reef. The bundles of coconut midribs are laid between the pairs of stakes to make the walls about 18 inches high. Some weirs (*matau*) have a permanent stone mouth to which the leaf-walls are linked.

226 The mouth of the simple leaf weir or of the composite stone-and-leaf weir is blocked with a scoop net or basket. Men inside the weir advance toward the closed exit, pounding the surface of the water with coconut midrib butts to drive the fish to the exit where they are caught. The fish caught in these weirs are the same as those caught in stone weirs.

Movable coconut-leaf sweeps (*pa lama launiu* or *kupenga lama launiu*) are used in the lagoon:

Bundles of dried half coconut leaves are fastened together to make a long sweep about 18 inches high and 20 to 30 fathoms long. The sweep is carried to the lagoon and used to surround (*liva*) a lagoon pool where the water is about knee deep. The wings are drawn together (*uuuuti* or *laulau*) and the fish clubbed or speared. Alternately the sweep is dragged over shallow water to the beach. Small fish are swept onto the beach or caught in the interstices of the midrib sections. The sweep is shaken out on the beach to dislodge the fish. Fish caught by this method are: *kaloma, vete, memea, ie, uuoa, kotimu, lupo,* and *atule.*

Semi-permanent fish runways (*alai lama*) made of *pa lama launiu* set between rows of stakes are used in the Yato fish pool at the causeway. These runways accustom the fish to go toward places where the fishermen set nets or lines when the tapu is raised from the pond and it is open for fishing. Rougher runways are made by placing bundles of coconut leaves in the water and weighting them down with heavy stones.

NETTING

A net full of fish is *puto iku.* The use of nets in fishing is limited to the hand fishnet (*tae yaeke*), seine net (*kupenga*), arched net with line (*tata tiuitiui*), long-handled dip net (*tae malolo*), and the flying-fish practice net (*tae penu*). (See pp. 208-209).

[227] 1. The hand fishnet (*tae yaeke*) is shaped like the *tae malolo* but is much larger, having a larger mouth and longer handle. I did not see one in use. It is employed as a scoop net to block up the seaward faces of short reef channels (*ji*) or of long reef

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226 channels (*ava*) leading to the open sea. Suitable channels on the reef shelf through which the water from the lagoon flows back to the ocean with the ebbing tide are blocked (*paeke*) and the fish caught. Fish caught by this method are the common reef and beach fish mentioned for weir trapping.

[133] 2. The seine net (*kupenga*) is used for beach and reef fish. Because the irregular coral bottom of the lagoon would soon rip the meshes of the net if dragged over the bottom, it is set, not hauled, for reef fish. Nets used for the small beach fish (*kaloma*) are dragged over the sandy bottoms close to the beach. Nets for reef fish are set on the seaward side of the reef shelf. Some men walk inward with the wings of the net while others on the lagoon side of the reef shelf walk seaward, beating the water with coconut-leaf butts to drive the fish toward the net. The wings are closed around the fish, which are clubbed to death in water about 4 feet deep. To use the seine net, whether by setting or hauling, is *yali kupenga*. The one net on the island at present is owned by the men of Ngake who sometimes use it on the reef off Ngake, at other times on the reef off Yato. When it is set off Yato, Yato men are always present; and the fish caught are fairly divided among the men of the two villages. Fish caught by this method include all the reef fish caught by spearing and by fish weirs.

227 3. The arched net with line (*tata tiuitiui*) is used for reef fish. It is constructed on the principle of the Samoan arched net with line (*27*, pp. 477-478), but with different materials. As I did not see one in use, the description is based on informant's account. A special net is not made; the net from the *tae malolo* is unlashed and used. It is laid flat on the ground. A sennit cord passes from each of the four corners of the net to make a sort of bridle which takes the place of the thin rods used in the Samoan net. To the apex of this bridle is fastened a hand line of sennit. The surface of the net is baited with *Tridacna* meat, and *Tridacna* shells are placed on the net mesh to act as sinkers. The net is let down from a canoe and laid on the bottom (*wolowolo*) in about 2 or 3 fathoms of water. The fisherman then dives to the bottom to spread out the net. When coral or reef fish swarm into the net to get the bait, it is quickly pulled up. The natural sag in the *tae malolo* net is increased as it is drawn rapidly to the surface, making it a fairly deep bag net.

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4. The scoop net (*tae malolo*) is used from a canoe on the outside of the reef to catch all kinds of fish. The classic example of this type of fishing is flying-fish netting. The best time to catch flying fish is after a big squall (*timu ongo*) which has the effect of bringing together the fish. Flying fish are sometimes caught by individual fishermen in single canoes, more often by a fleet of canoes (*usua vaka*) which goes out by arrangement to fish competitively. For the purposes of this fishing, members of the crew are named according to the functions they perform. In a six-seater canoe (*yeke ono*) the crew members, starting from the steersman and moving toward the bow are: the captain, who is steersman and principal netter (*tae muli*); the *wuliwuli* ("mate"), who has charge of the canoe when the *tae muli* is netting but paddles at other times and is also referred to as *te ola no te tae ava*, because he gathers together the fish as the netter throws them into the canoe; the *tae ava*, who paddles and also nets when the canoe is on a big shoal of fish; the *o loma* or *te tata ysa*, who paddles, bails, and gathers in the fish thrown by the second netter and is also responsible for the torches (in a six-seater canoe there is one torcher; in an eight-seater, two torchers); the *ola no te ulu* or *te tatavi*, who paddles and gathers the fish together and who with the second man (*wuliwuli*) is responsible for keeping the canoe straight to the reef and moving it as required when the other members of the canoe are netting or bailing; the *tae mua* or *tae ulu*, who paddles, acts as a netter, and is responsible for warping the canoe (*lalo te vaka*) as it is swung head-on to the reef, so that the canoe is kept dead head-on to the reef and swings neither right nor left from this position. In smaller canoes with a crew of only three men, the netter is in the bow, the torcher in the center, and the steersman in the stern. Previously only men fished flying fish, but today women and girls occasionally go out with the fleet to act as paddlers and torchers.

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226 The canoes of the fishing fleet line up outside of and parallel to the reef. The leading canoe (*iki*) turns toward the reef, pointing bow-on to the reef. The torcher in this canoe raises his torch so that it bursts into flame (*wekayila te lama*). All the other canoes in succession turn bow-on to the reef and raise their torches. The fishermen make booming noises by beating the washstrakes of their canoes with their hands, and produce loud sibilant sounds by sucking in the breath quickly through pursed lips. These two sounds, together with the glare of the torches, attract the fish to the surface. They skim through the air and are caught by the netters, who net on the starboard side of the canoe. As soon as the shoal of fish has been caught or frightened away, the torches are lowered and allowed to smoulder. The canoes turn parallel to the reef again and paddle farther along. The last canoe in the line now races up from behind the fleet and takes its place at the head of the fleet (*wakalaka te vaka muli ki mua*). Each canoe in turn leads (*iki*) the fleet until all canoes have had their turn as leaders of the line. When the last canoe has reached the lead, it turns toward the reef and raises its torch. All the canoes follow suit, and the whole process is repeated. During an evening's fishing along the western reef, the canoes work down the reef from Wale until they are opposite Motu Kotawa or Motu Ko. A canoe which has an expert netter may catch about 200 fish during an evening's sport.

Fish caught by the scoop net on these occasions are: *ie pa, yipa, aku, mololo, ngalio, kupakupa, mueke, matauli, uli, wo,* and *witiwiti.* All these fish, save *ie,* of which the schools are so big that the fish is easy to catch, and *aku,* which is a very big fish, are counted as scoring fish in village flying-fish competitions. The height of the flying-fish season is from August to December.

ROD ANGLING

Angling, a common Pukapukan method of fishing, is of three types: beach angling, reef angling, or stationary canoe angling inside or outside the reef. The type of rod and hook used depends on the fish to be caught.

1. In beach angling the fisherman usually uses the *matila kaloma* rod and small *yeki* hook. He stands on the beach or in the beach shallows and casts his hook into the shallow waters. Women, as well as men, are skilful beach anglers. Small fish are caught by this method. All members of the *kaloma* and *vete* family are caught with a *yeki* hook, with bait of red *unga* crab and chum of *kaipea* crab. These fish are caught in daytime throughout the year. They are especially abundant at the new moon, during the southern solstice, and after a thunder storm. Other fish caught are: *manini, papata, kata, katuli, lupa,* and *uli.* The bait and chum are those used for *kaloma.*

2. Reef angling includes angling from the reef shelf where the hook is cast on the outside of the reef, angling on the reef shelf itself, angling on the inside of the shelf where the hook is cast into the deep water of the lagoon, angling from coral heads inside the lagoon, and angling from the lagoon. In lagoon angling (*wakalukuluku*) the fisherman stands in water up to his neck. Holding the rod with one hand, he submerges his head to look for fish and then casts the hook in the direction of the fish.

[227] The rod used in these methods is the *matila patuki,* which is about the same in size as the *matila akuaku* (p. 187). The type of hook varies for the kind of fish to be caught. Fish caught and hooks and bait used are:

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Fish Caught	Hook	Bait
Maono and pula	Yeki	Abdomen of unga crab (pala unga)
Patuki, lenga, kaka, and pakou	Yeki	Crab or kaloma fish
Eve and umaliki	Yeki or tope (depending on size)	Crab, ie fish, or kaloma
Talao, moye, and tutupaku	Tope or composite pearl-shell hook	Crab, ie, or kaloma
Uwoa, aliki, kanai, and kawa	Tope	Crab and kaipea crab chum
Pakeva, peva, and lalawutu	Tope or composite pearl-shell hook	Live or dead kaloma
Komuli (caught only at night; lai fished incidentally to komuli)	Composite pearl-shell hook (pa komuli)	Live kaloma
Yoke, moi, and ayoke	Tope or composite hook	Crab
Ume, palangi, malava (best caught during evening rising of Antares in June or July), kayuye, ma, and maito	Yeki with especially wide space between point and shank	Unga crab, kaloma, or ovum of Tridacna shell fish, and kaloma chum (sun-dried black portion of Tridacna best for catching ma)
Tupoupou, taotaoama, and tawoou	Small tope	Live kaloma
Ngatala, tangau, tunalenga, and mutonga (best caught in early morning or early evening)	Tope	Live or dead kaloma
Malau, malau loa, and kikiyamoa (especially moonlight nights)	Tope or composite hook (pa malau)	Unga crab or kaloma (especially on moonlight nights)
Ava and kiokiotai	Tope	Black unga crab meat or seaweed (limu)
Kokili, kili, umulenga, yimu, weke, atu (small bonito only), yipa, malolo, witiwiti, atule, matapula, paniwi, yoyala, palu uli, piopio, matacle, lali, papa, wapuku, and kaka	Yeki or tope	Unga crab or kaloma and chum (where used) of unga crab meat

3. Stationary canoe angling, with the canoe anchored inside or outside the reef, is the method used for catching the following fish:

Fish Caught	Hook	Bait
Akuaku and ie	Fishbone gorge (au)	Dead kaloma fish
Atu, yipa, and malolo	Yeki	Unga crab bait and chum
Witiwiti	Tope	Unga
Kopelu (when near the surface)	Short rod and line, small yeki hook	Bait and chum of chewed drinking nut flesh
Rock groupers	Tope	Crab or kaloma

4. Reef angling with a lure, but without baited hook, from the outer edge of the reef shelf into the breakers on the outside of the reef is *yi pwupwu*. An unbaited composite hook is used, sometimes also today a feather fly of pigeon, tern, or tropic bird.

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226 The few fish that may be caught in this way include: *pakeva*, *peva*, *lalawulu*, *komuli*, *malau*, small *aku*, and *ngangono* (bonito), *matapula*, and *paniwi*.

FLOAT FISHING

Line fishing from beach or stationary canoe, the line lying horizontally on the top of the water and the hook supported by a float, is termed *wakamoe* fishing. The line is usually of two-ply twisted sennit (*uka*), and the float (*vakai*) is of *wakanovo* wood.

1. In beach *wakamoe* fishing the fisherman either casts the line from the beach or wades out about 20 yards into shallow water and then casts the line. The float is watched, and when it begins to bob up and down, both line and float are hauled in. The hook is rebaited, the line recoiled, and cast with an underhand throw. Fish caught by this method are:

Fish Caught	Hook	Bait
Mayi, uwoa, aliki and kanae (best fished during full moon at spring tide, in early morning or early evening)	Small tope	Red unga crab and chum of kaipea crab
Kawa (best fished during full moon at spring tide, in early morning or early evening)	Tope or kawilo hook of turtle shell	Black unga crab
Mai and ayole	Small tope	Unga
Papoupou, taotaoama, and tawonu	Small tope	Kaloma
Small taiva, tangau, tunaelenga, mumu, and malau	Small tope	Kaloma and unga
Large ava and kiokiotai	Very round tope	Black unga meat or seaweed
Fresh-water eel (tuna wenua)	Tui wua	Bird intestine
Tamule	Tope	Live or dead kaloma
Tilica	Tope	Octopus flesh

2. Canoe *wakamoe* fishing is done inside or outside the reef, the hook being supported by the *vakai* float. The fish caught by this method are:

Fish Caught	Hook	Bait
Aku tangata and aku pa	Barbed hook (matau wakavae)	Crab or kaloma
Pakeva, lui (best fished in early night or before dawn in new or full moon)	Tope wanga and heavy line	Live kaloma, needle fish, or flying fish (lui brought to surface with live kaloma chum)
Tatu	Barbed hook	Live kaloma bait and chum
Malatea (in lagoon waters up to 10 fathoms, 300-400 yards from beach, at high tide in new or full moon)	Wooden hook (kau)	Live tupa crab, kaipea crab, or octopus flesh
Kavevevale	Wooden Ruvettus hook	Flying fish, chummed to surface by refuse from bait

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226 227 A float (*makai*) used for catching flying fish from a stationary canoe was described by informants:

The float consists of a section of *vakaseu* wood about 9 inches long and 3 inches in cross section. To each end of the float is fastened a line ranging in length from 18 inches to 6 feet. The two lines on the same float are of unequal lengths to avoid tangling when fish are hooked. Each line has a *yeki* hook which is baited with *unga* crab, *kaloma*, or flying-fish meat. Several floats (*makai*) are allowed to float unattached around the canoe. When a float begins to bob, the fisherman paddles to it, disengages his fish and resets the float. Chum of *unga* crab meat is used to attract the fish to the float. The only fish caught by this method are members of the flying-fish family: *yipa*, *malolo*, *malolo puna akau*, and *malololeyua* (large-bellied balloon *malolo* fish which is not eaten and only caught incidentally).

STILL-CANOE FISHING

226 Still-canoe fishing with a vertically descending line and dead bait is termed *taualo*; similar fishing with live bait is called *lulu*. When the *taualo* system is used with a *yeki* hook for small fish, the method is called *yekiyeki*. In both types of fishing not more than 50 fathoms of line are paid out and the canoe is anchored inside or outside the lagoon.

[502] Outside the reef the canoe is kedged onto the reef. The anchor line (*kowatau*) is buoyed up from reef to canoe with dry coconut husks. A quarter husk is split longitudinally for about 6 inches and the line wedged into this split. The natural spring of the husk serves to keep the line fast. About 12 husk buoys (*pulu langalanga*) are used for each 100 yards of anchor line. Several canoes fishing together are lined up in single file. The first canoe is kedged to the reef, and each of the other canoes is attached by about 10 yards of anchor line to the one in front. Canoes are kedged to the reef only in an offshore wind. Canoes anchored inside the lagoon are usually kedged with two anchors (any large stone serves as anchor), one at the bow, the other at the stern. In both *taualo* and *lulu* fishing the canoe is faced to windward, and the line is dropped in the lee of the canoe. Both types of fishing depend for success on an ability to see the fish biting the hook. To make the leeward surface of the water calm and devoid of surface rippling, the fisherman chews coconut flesh, which he spits on the sea. The oil in the flesh spreads over the water and effectively calms it. Today a waterglass is often used instead of chewed flesh. Some fishermen prefer to fish the smaller lagoon fish when the sky is overcast and likely to rain, using composite shell hooks. Where *Tridacna* is used as chum, the backs of the opened shell are rubbed together, making a grating noise (*hulahula*) to attract fish; the two half-shells with meat attached are thrown into the water near the canoe. Fish caught by the *taualo* method are:

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Fish Caught	Hook	Bait
Eve, maliki, talao	Yeki or tope	Kaloma, ie, or crab
Uhoulo	Tope or small composite hook	Crab or kaloma
Parrot fish	Yeki	Tridacna, crab, or seaweed
Pakeva, peva, lai, and lalawutu	Tope or composite hook	Dead kaloma
Usue, palaagi, malava, kayuye, ma, and maito	Yeki	Crab, kaloma, or Tridacna
Malali and lalawi	Tope	Unga and kaloma
Malatea and eels	Wooden hooks	Tridacna, octopus, or sea urchin (vana)
Wuakula, lalaau, tiwitiwi, tatatasi, laumumi, yama, tititseyau, taiva, kokili, kili, gandenga, yimu, atule, rock groupers, waputi, and pakeva	Plain or barbed tope	Crab or kaloma (grouper papa best caught with bait of flying fish or octopus)
Sharks (occasionally when trolling albacore fishing; not eaten)	Large wooden hooks	Any dead bait

The method of attaching dead bait (*mauau mate*) to any type of single-piece fishhook is shown in figure 4, *a*. Live bait used in *lulu* fishing is any small fish. The point of the hook is passed through the back of the fish or the fish is tied to the hook shank by the bait string (*takele mauau*) so that it wriggles about in the water. *Kaloma* bait is preferred in *lulu* fishing for the fish also caught by the *tauala* system, except for *ulua* and *lai*, which bite best with live *malolo* bait on a wooden hook. *Komuli* is fished only at night with a composite hook. *Lai* is fished only at night in the full and new moon, with *tope* hook. For *lulu* fishing the bait is caught before the planned expedition and kept alive in a submerged basket tied to the cross booms at the side of the canoe, within easy reach of the fisherman. The mouth of the basket is securely fastened to prevent the escape of the bait fish.

227 284 A special method of attaching sinker to line is employed in *lulu* fishing for *kahai* and *pala* fish:

The hook (*nukuolo*) is barbed. A secondary snood (*matai*) of two- or three-ply twisted *uso* fiber about 7 feet long joins the hook to the fishline of sennit. Unlike sennit which hardens in water, *uso* line becomes soft and slips easily from the sinker when settled. Live bait of *kaloma* or *atule* is fastened by the tail to the shank of the hook. Hook and bait are laid on the surface of a smooth coral stone sinker, and chum placed on top is covered by a *puapua* leaf so that it will not scatter until the requisite depth is reached. The *matai* snood is passed around the sinker away from the barb of the hook, making two or three transverse turns to secure both hook and bait. The *matai* is then caught in a bight with the left hand and passed around the sinker once in the opposite direction, passing over the right thumb that holds the first transverse turns in place. The bight and the running part of the *matai* are tied together in a single overhand knot; sometimes a single slip noose is made on top of this overhand knot. Hook and sinker are paid out until the required depth is reached, when a sharp jerk on the line releases the sinker which falls away, leaving the hook, bait, and chum at a favorable depth.

226 Many men go outside the reef two or three times each week to catch *kahai*, the fish usually caught in fishing competitions. *Kahai* fishing is the favorite deep-sea fishing of the Pukapukan today:

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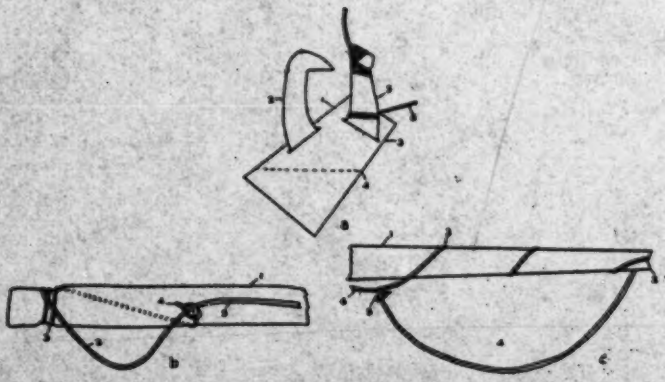
226 [264] 501 285 502 A man catches his *kalama* bait in the morning. Besides his fishing gear and two or three coconuts for his day's lunch, he takes with him coconut-leaf mats (*pola lausiu*) which provide protection from sun and rain and serve as sails. A mat leaning against the fisherman's back while he waits for a bite is easily thrown aside when strenuous activity is required to haul up the fish on the line before the sharks can take the fish from the hook. When the canoe is kedged to the reef and there is only a gentle breeze blowing offshore, a mat sail is used to prevent drifting onto the reef, thus obviating the necessity of paddling out from the reef again and again. A big sail in a fishing canoe would be cumbersome and would catch too much wind. A mat standing up in the canoe, with vertical midrib base and light guys running to outrigger booms providing support, gives sufficient belly to catch the wind and keep the canoe off the reef without dragging anchor.



227 284 223 FIGURE 4.—Implements for fishing and bird noosing. *a*, fishhook with bait attached: any dead fish bait (*moamoa mate*) is attached to old style hook by removing head from bait fish and stripping off fillet (1), excluding backbone from belly backward so that flesh remains whole; hook (2) thrust through tail end (3) of fillet from flesh side, back through head end of fillet from skin side; fillet folded (4) along hook (dotted line), flesh side outward, skin side inward, and tail end of fillet lashed to shank (5) of hook, near shank knob, by transverse turns of bait string (6), fastened with half hitches. *b*, bird noose (*pele manu*): pole (1) about 12 feet long, 2 inches in diameter; noose (2) two-ply twisted sennit; one end of sennit passed transversely around notch end of pole (3), then down underneath two transverse turns; short free end (4) tied in square knot on bight; running end (5) passes down pole to bird catcher's hands at proximal end. *c*, fish noose (*kauyele*) (C8152): wooden support (1) of *puapua* wood about 6 feet long, ½ inch in diameter at proximal end, ¼ inch in diameter at distal end which is notched (2); noose cord (3) of strong, three-ply twisted *uso*, wound around support, passed over notch (2) to form noose (4); free end knotted on bight (5) and cord (6) passes to proximal end of support.

226 *Tuku moamoa* fishing from a stationary canoe outside the reef with dead bait differs in two respects from both *lulu* and *tauulo* fishing: *tuku moamoa* fishing is deep-sea hand-line fishing up to about 300 fathoms and involves

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226 the use of a special composite fishing apparatus (*taumakomako*) consisting of four or more hooks fixed by spreaders to a single line. Two types of *taumakomako* are described elsewhere (p. 188). The hooks of both types are baited with dead *malolo* or other dead bait.

The *taumakomako* is lowered over the side of the canoe and line paid out until it is felt that the sinker has touched bottom; it is then heaved up a few feet. When the first fish is felt, the line is hauled in a little. This is repeated until all hooks have caught fish, when the whole apparatus is pulled to the surface. A strong fisherman is required to pull up the apparatus, weighted down with fish, from a depth of 200 fathoms to the surface with sufficient speed to avoid losing the fish to sharks. I did not see a *taumakomako* in use; it is said to be used occasionally by expert fishermen. The deep water fish caught by the *tuku moana* method are: *palu mumu, palu uutu, palu atu, palu paniuri, palu matapula, palu malau, palu una, palu tavatavu, palu ulua, palu komuli, palu kakai*, and *palu katakata*. The giant *kakai* (*matawula*), which is so large that no fish-line is strong enough to hold it, is always noosed. An account of *tuku moana* fishing with a detailed explanation of the hooking and pulling in of fish is given in the story of Maui (1).

RUVETTUS FISHING

The method of fishing for *Ruvettus* (*palu kilitala* or *palu toeyi*) with a wooden hook (*kau*) is termed *yi palu*. It has been practiced in Pukapuka from very early times. An ancestor, Yaki, is remembered as the man who first fished *Ruvettus*.

224 The hook is attached to the line of sennit by the secondary snood (*mutai*) with
284 an ordinary double overhand knot. The sennit line may be 300 fathoms long, though the usual fishing depth is about 200 fathoms. Two methods are adopted for attaching the sinker (*mutu yi palu*) to the wooden hook. In the first method the sinker line, a strip of pandanus leaf (*uuo tua kie* or *uuo lauuilu*), is fastened to the sinker by a simple slip noose and to the bend of the wooden hook by a similar slip noose (overhand knot on a standing line). When the fish worries at the bait it bites through or snaps the frail pandanus, and the sinker falls away from the hook. In the second method the sinker line of pandanus is fastened to the sinker by a simple slip noose, but the free end of the sinker line is laid on the bend of the hook, and two turns of the line are taken around the bend of the hook and over the free end. When the sinker touches the bottom, the bottom takes the weight of the sinker, the two turns around the hook loosen, and the sinker falls free. The second method is used only by the expert. The non-expert, unable to judge accurately by touch when the sinker has touched the bottom, would pay out too much line, foul his hook on the bottom, and lose it.

Special bait attachment is used for the wooden hook. A fillet of *malolo* fish is laid on the point limb of the hook and tied halfway down the point limb with several transverse turns and an overhand knot. The remaining part of the fillet is laid back along the point limb so that it covers part of the functional point. The fastening of fillet to limb is with a strip of coconut midrib fiber (*kalava*). This is used in preference to the ordinary bait string (*takele maunu*) of *uuo* cord, because the sharp teeth of the *Ruvettus*, which can bite through the *uuo* and destroy the *takele maunu*, are not sharp enough to destroy tough coconut fiber. The lashing of the point of the wooden hook to the point limb is protected from the teeth of the *Ruvettus* by a covering of sharkskin wrapped over the lashing and tied above and below with coconut midrib fiber. The bait fillet is fastened to the hook on top of the sharkskin protective wrapping. No chum is used for *Ruvettus*.

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226 *Palu* fishing is carried out only at night after moonset of the first nights of the new moon. A man fishes alone or with several men in one canoe. After flying fish for bait are caught, the canoe is kedged to the reef by about 200 fathoms of line. The hooked *Rauvitua* is speared before being drawn into the canoe.

Other fish caught at the same time are *katakata*, *kapoa*, the giant *malau*, and a few other large-eyed, night-feeding fish. *Kapoa* and *Rauvitua* are considered sweet eating fish, though *kapoa* is said to have better flavor.

TROLLING

Three systems of trolling (*tahi*) for fish are used in Pukapuka:

1. Trolling while swimming (*tahi ia*, *tahi akuaku*, according to the fish caught). A man swimming in the deeper waters of the lagoon at dusk holds in one hand a few fathoms of fishline to one end of which a bone gorge (*au*) and bait are fastened. He pays out the line and lets it troll behind him as he swims. This is a method of catching needle fish.

2. Trolling from a canoe with a line (*tahitahi*). One end of a fishline is held in the hand or fastened to the cross boom of the canoe outrigger; the other end is paid out over the stern of the canoe and left to trail behind. The line is sometimes jerked by hand to add movement to the lure. At other times the line is paid out fully and then rapidly pulled in again. A composite shell hook, sometimes today a pigeon, white tern, or tropic bird feather, or a baited hook serves to attract fish. The bait is alive or dead according to the fish to be caught. The trolling is across the lagoon by canoes going to the reserves, along the outside of the reef, or farther out to sea.

3. Trolling with a rod (*matila*) over the stern of the canoe (*tahi*). An unbaited composite hook, a feather fly, or a baited hook is used. If the fishing pole is not oscillated with the hand, movements of the hook or lure derive only from the motion of the canoe. Rod trolling may be inside or outside the reef. Fish trolled are caught equally well with rod or line except bonito, *pala*, *kamai*, and *akula*, which are caught exclusively with trolling rod and unbaited hook.

Fish trolled with rod or line from canoe and with baited hook: *ulua* with live *malolo* bait and wooden hook; *tatu* and *lai* with live or dead *kalowa* bait; *tautatua* with live *malolo* bait; *atule* (close to the reef) with live or dead bait; rock groupers (along the reef) with any bait; *pakeva* with a *tafe mango* hook and live bait of needle fish, *kalowa*, or *malolo*.

Fish trolled with rod or line from canoe and with unbaited hook or feather fly: *akula*, the parrot fish, *pakeva*, *pewa*, *kalawatu*, and *lai* (with fly of pigeon feather); *malau*, the rock groupers, *pakeva*, *lai*, *tatu*, and *uwea* with a fly of white tern or tropic bird feather.

BONITO FISHING

Fishing for bonito (*yi atu*) requires special techniques and was formerly tied up with much ceremonial. The bonito (*atu*) fishing season opens with the morning rising of the Pleiades and lasts for three to four months thereafter. As bonito schools (*lisanga atu*) are believed to follow the schools of flying fish, bonito fishing comes after the flying-fish season has already commenced. Bonito bite best in the new and full of the moon.

226 776 782 At the rising of the Pleiades the men of the island formerly gathered together to decide what fish were to be specially fished during the coming season and what was to be the composition of the crews for the various fishing groups. There was no special religious ceremony to open the season but the priest of the god *Matahivalupi*, protector

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of bonito, communicated with this god to insure his favor during the coming bonito season. The old men (*tupale*) decided which of the younger men should make up the bonito-fishing group (*notonga*) for the season. None but the men of this group might fish *atu*. The *notonga* fishermen were fed by the old men, who gave them cooked taro to take with them each day they went fishing. The fish caught were all brought to the meeting place (*malae*) of the old men and there divided among the people of the island with the proviso that each man of the fishing group was allowed to have the head of the fish he caught in addition to his share of the flesh. The group which caught *atu* one year automatically became the group for noosing *pale* fish the next year. All fish secured were similarly divided by the old men among the people. The men of the *notonga* group, which consisted of about four canoe crews, each of five or six men, were taught the elements of *atu* fishing, the rules, tapus, and skills before the season started. There were no special names for the crew members. The best fisherman (*tangata toa waiva*), who was usually also the oldest man of the group, became captain. His was the canoe that always shot the reef passage first. The next canoe to follow had the next oldest man of the *notonga* as captain, and so on for all the canoes of the *notonga*.

Besides having care of the canoe and fishing gear, the captain of each canoe was responsible for providing bonito hooks. He had to provide one hook for each member of the crew, including himself; in a six-seater canoe the captain went fishing with six bonito hooks on his bonito rod. If, while the canoe was fishing, a storm arose that seemed likely to break the canoe up, the captain gave to each member of the crew one bonito hook from those on his rod. Each man tied his hook around his neck to act as a breast ornament (*yana*); were the men drowned thereafter, each went to his death provided with his death ornament. If there were too few hooks to go round the crew, as might sometimes happen if hooks were lost from the line while fishing, the captain gave to those without hooks any article of value in the canoe—a section of anchor rope or ordinary single-piece hooks. In this way no member of the crew lacked a death gift. The theory behind this was that the captain was responsible for getting together his crew, for their safety in this life, and for their dying at sea as well provided with gifts as if they died on land. To give out the gifts was *wakayana*, and the gift itself was *yana*, as distinguished from the death gift on land, *wutonga*.

Atu fishing was a somewhat perilous occupation because the canoe might press out far from land in pursuit of a shoal of fish and, caught in a storm, be unable to make a landfall again.

The canoes of the *notonga* left the village early in the morning. As they passed the rock called Te Ulu-mano-o-te-tokalua, which juts out of the water opposite Yato village, the captain placed a malo, hook, or simple coconut leaf on this rock as a gift (*wakatetea*) to the god Malokitelangi, that the god would give the canoes good fortune. It was tapu for any canoe going across the reef to scrape the bottom on the coral. If a canoe did this, it could not proceed farther but had to return to the village without fishing during the day. Rain drives away bonito fish from the surface, and if the canoes did not sight fish after patrolling for some time, it was permissible for them to return to the reef to rest. All the crew, save only the bowman, might step out on the reef and walk about; if the bowman forgot the tapu and stepped out, the whole crew had immediately to return to the village without further delay, even if meantime a shoal of fish had been sighted. If this tapu was disobeyed, the canoe was likely to be destroyed by lightning. When the victims of such a mishap as the breaking of a tapu returned to the village, they were greeted with insults and labeled *ngongo elo* (stinking *ngongo* birds). The shame of the crew was great if later in the day the other canoes of the group returned loaded with *atu* fish.

Bonito was not regarded as a fish (*ika*) but as an animal (*manu*). Fishermen learned bonito schools by the flocks (*inoe*) of seabirds following them. Canoes trolled up and down outside the reef. The captain sat against the bonito rod, which was sup-

1:Beaglehole and Beaglehole E-5 (1934-5)1938 Pukapukans

ported by the notch in the rear seat (*yulunga matila*). When a bonito engaged the hook, the rod pressed against the captain's fundament. He reached out with his right hand, grasped the rod, swung it around to the right side of the canoe, and landed the fish in the canoe. When the crew sighted a school of fish, the men paddled furiously to reach the school and kept paddling to remain with it. The captain stood up and faced the rear of the canoe. He held the handgrip (*tukou*) of the rod against the thigh with the left hand, grasping the rod some distance toward the point with the right hand. The man next to the rodman gently splashed (*tapipi*) water on the hook which trailed on the surface. When a bonito bit the hook, the rod was flipped up and the fish came flying in toward the rodman. It struck him on the chest or belly, and the impact of the striking disentangled the fish from the hook. As the fish fell into the bottom of the canoe, the rod was immediately swung out again. To swing the fish to the belly is *yi tata*. A bungling or inexpert rodman who lost his fish in mid-air was referred to as *yi kourikouri*.

While the canoe was on or near a bonito school, it was tapu to drop anything overboard, whether paddle or other article, or a fish from the rod. The dropped object or the dropped fish, by its rapid tail-spin descent through the water, frightened the school. The man who dropped anything overboard was reported to the old men and was fined by this body 50 talo puddings (*masua*) or the equivalent. Today, when one man has a grudge against another, a pleasant form of revenge is to wait until the enemy is on a school of bonito and then to come up quietly from behind and drop a paddle overboard. It was also tapu formerly to let the rod slip from the thigh. The rodman who allowed his rod to slip was reported by his crew to the old men and by them fined 1,000 talo puddings. The slipping of the rod was extremely serious: it not only allowed a fish to drop and frighten the school but might also entangle the hooks and waste precious time. If such an incident was not reported to the old men, the god Malokitelangi punished the crew by striking the canoe with lightning.

When the canoes came back to the reef after a day of fishing, the crew signalled the people waiting on the western beach the number of fish caught during the day. These signals were made by holding a wet paddle in the air and twisting it so that it flashed (*lapo*) in the sunlight. One flash given by a man standing upright in a canoe meant that the canoe had caught 100 fish, two flashes meant 200 fish, and so on. If one canoe had caught 150 fish and another canoe 50, then 50 fish from the first canoe were transferred (*toukolo*) to the second canoe. The man in the first canoe stood to flash his paddle, but the man in the second canoe remained seated when he flashed. If two or more canoes caught between them more than 100 fish but less than 200, then only one standing flash from one canoe was allowed. Those canoes allowed one or more flashes each approached the reef first.

The captains of the returning canoes carefully washed their bonito hooks and lines in fresh water after arriving home. This act is *voukamangalo*. Hooks were soaked in a bowl (*kumete*) of fresh water, or submerged in a fresh-water pool. Placing hooks in a pool of water was not at times perilous as stories tell of men whose hooks were stolen from these pools while they attended to other duties. Hooks lost from the rod at sea were believed to be taken by fish to the undersea house of the god Totolos and there stored by him in the rafters of his house.

Bonito fishing is dying out in Pukapuka today, because, it is said, the fish are vanishing from Pukapukan waters. The old ceremonial is already gone. Whereas formerly a canoe might easily catch 100 or more during one day, now a canoe is lucky to return with three or four fish, an inadequate return for the hard physical labor involved. Bonito hooks are hoarded as valuable heirlooms and for use as death gifts.

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NOOSING

226/25 Noosing (*yele*) is a common Pukapukan method for catching eels, sharks, swordfish, *matawula kakai*, and *pala*. No bait stick, whole fish bait, or special type of noose is used for the eels in Pukapuka, nor are sea centipedes or crayfish caught by this method, as is reported for Samoa (27, p. 421). The Pukapukan noose of three-ply twisted cord of *uwo* fiber is made by passing a free end of the cord around the running section of cord and tying it around itself with an overhand knot. The noose is made about 3 feet in diameter. (See p. 188). Fishing is outside the reef:

A teaser bait (*pakupaku*) of bonito flesh is tied to a line and trolled behind the canoe to attract the fish. As the canoe trolls the teaser, the crew make their paddles resound (*tangi*) by hitting the water and beating the sides of the canoe with them. When the fish is seen, the teaser is pulled into the canoe, the noose placed on the *kauyele* stick, and the stick put into the water. Chum is thrown out to attract the fish toward the noose. The stick is withdrawn and more chum thrown into the water on the farther side of the noose. The noose is thus between two chums and is maneuvered so that even a wary (*kailopa*) fish comes up on the starboard side of the canoe. When the fish moves through the noose to reach the second chum, the noose is pulled tight around its tail. The fish is hauled to the canoe and clubbed before being lifted in. This method of noosing fish corresponds to similar methods described for Samoa (27, p. 421) and Vaitupu (19, pp. 56-60). In Pukapuka however there is nothing corresponding to the hurling of insulting remarks (*tapetape*) to the fish to make them indiscreet, as Kennedy reports for Vaitupu.

TURTLES

227 Three varieties of turtle are common in Pukapukan waters: *matawao*, the largest green turtle; *wonu*, the ordinary green turtle; and *wonu kea*, the hawk's-bill turtle. When turtles are sighted from the shore, the news is called out through the village and the people ask, "E talau? E taepu?" (Is it big? Is it small?). There are three methods by which turtles may be captured:

1. *Puke wonu*, overtaking or seizing a turtle. A man swims out to sea in the season for turtles. He may swim several miles before he sights the animal. Coming up to a turtle, he gets on its back and gouges out its eyes with his thumbs, at the same time forcing the head of the animal upwards with hard pressure. As long as this pressure is continued, the turtle will keep to the surface and will not sound. Alternately the fisherman catches the foreflippers of the turtle with his arms and holds them up; this also prevents the turtle from sounding. If the fisherman is expert, he steers the turtle over the reef to the beach; otherwise he holds the animal until a canoe arrives from shore. An expert who is a good swimmer, strong and skillful, can bring a turtle ashore unaided. When turtles to be caught by this method are seen from a canoe, the first command is for absolute silence, for the turtle sounds immediately noise is heard. One of the crew slips into the water, swims up to the animal, and grips it as just described. His companions stretch apart the foreflippers, tie them to a stout stick, and lift the animal into the canoe.

2. *Yele wonu*, noosing. A man swims out to sea, often with a canoe outrigger as a float, while he waits to sight a turtle. When he sees one, he takes a line with a running noose in the end and dives and slips the noose over the foreflipper. The noose is pulled

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tight and the free end tied to the outrigger. As long as the turtle is attached to the outrigger, it will not sound. The fisherman waits for a canoe from shore. The turtle is lifted into the canoe and taken ashore.

In both these methods great care is taken to prevent the penis tail of the male turtle from locking the fisherman's leg against the carapace. Once this is done, the grip is viselike; the turtle sounds, drowning the fisherman. The tail is also a formidable weapon. If it pierces the body of the fisherman, priapism and death are extremely likely. The male turtle is much more difficult to catch than the female.

3. *Wuli wowo*, turning over the female turtle on the beach. The turtle-laying season begins with the morning rising of the Pleiades and continues until their evening rising. Only the two green turtles lay eggs on Pukapukan beaches. The fisherman goes to the outer beaches and watches for turtle tracks or turtle nests in the sand. When he finds a nest, he counts the eggs. It is believed that the female turtle returns to her nest after a given number of days depending on the number of eggs in the nest. Thus if there are 120 eggs or more in the nest, she is expected to return in 8 nights to lay again; if there are 100 eggs, she will return in 10 nights; if there are 80 eggs, in 11 or 12 nights; if 60 eggs, in 14 nights. The outer beach is then watched on the appropriate night at the full of the tide. When the female turtle comes ashore, she is turned over on her back and rendered helpless.

Formerly all turtles were taken to the meeting place of the old men and there the meat, fat, eggs, and shell were divided among the people of the island. The man who caught the turtle was given its head besides his share of the flesh. For the old men were reserved the belly fats (*pukualanga*) and the major internal organs (*ngakau matua*). It was tapu for any others but old men to eat these parts on pain of sickness and grey hair. The custom of dividing a turtle among all members of the community survives today.

OCTOPUS AND CRAYFISH

The Pukapukan levies on other creatures of the sea or reef besides fish to provide him with food. The long-tentacled octopus (*weke makave loa*) and the short-tentacled octopus (*weke makave poto*) are caught for bait, but they are not eaten.

Formerly they were speared or fished with line and hook. Today a common way to catch them is to throw several handfuls of coral lime (*punga*) into an octopus hole. The lime dissolves and causes the animal to emerge, when it is speared or grasped with the hands. Squid (*muaki*) is eaten and used as bait. It is speared or caught with a hook.

Saltwater crayfish (*ulo*) live in communities in large holes in the reef. Knowledge of these holes is kept secret by those fortunate enough to know them. One who knows where they are can pick out a crayfish from his hole at any time; others fish for *ulo* in any likely hole on the reef shelf.

The best time for finding crayfish is on the first three nights of the new moon after moonset. Using a torch, a man visits holes of the reefs and picks out the *ulo* with his hands (*lalao ulo* or *tangu ulo*). Crayfish are caught also during the nights of the full moon at high tide. They are sometimes caught in torch fishing (*lamalama*) or in seine netting at dusk. A final method is to fish for them in holes, with a rod, a single-piece barbed hook, *kalowa* bait, and plenty of chum.

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SHELLFISH

227 *Tridacna* shellfish (*payua*) is obtained from the lagoon corals with the aid of a cutting implement (*kalo payua* or *manin payua*) of *ngangie* wood about 12 inches long. One end is a double-edged, pointed, sharpened blade (*kalo*). The other end (*kalokalo*) is square and has a cutting edge on one side only. Between the two blades is a smooth section of wood used as a handle. Today a piece of iron with wood lashed along the median line is [283] preferred to the wooden implement. Both men and women procure *payua*. Groups of girls or mixed parties of young men and girls go shellfishing together. An outrigger is often taken out from shore to act as a float. 226

By one method the fisherman dives for *payua* in deep water. He cuts the membranes on the two open half-shells with a twist of the *kalo* blade of the knife to prevent the shell from closing. Then with the *kalokalo* blade he makes a circular sweep around both shells and severs the flesh from the shell. He brings the flesh to the surface, leaving the shell below the water. The flesh is placed in a basket tied to the outrigger float. Considerable skill is required to remove *Tridacna* meat with the implement in the time the fisherman can remain submerged.

Another way to procure *payua* is to swim or canoe out to the coral heads of the lagoon and pry (*sapesape*) the shells from the coral with a digging stick. Today an iron crowbar is preferred for this work. The shells are loaded into the canoe and brought ashore, where the flesh is cut out with a *kalokalo* or knife. On coral heads in the lagoon close to Motu Ko are huge piles of *Tridacna* shells (*ngaŋipayua*) which testify to the value placed on *payua* meat in past times.

226 The flesh of the pearl shell (*ayua ai*) is not eaten. The shells are grasped 321 in the hand and twisted so as to break off the tentacles anchoring the shell to the coral. Pearls were of no value when found inside the shell and were commonly thrown away.

The general name for clams is *pipi*. Various varieties are *pipi yeyenga*, *pipi kula*, *pipi tonga*, and *ngu*. They are not eaten but the shells were [413] formerly valued for cutting implements, coconut graters (for which the clam *ngu* was used), talo scrapers, and occasionally for lancets in surgery.

Periwinkles (*alili*) come over the reef in large quantities at the full of 126 the moon and are especially numerous during the time of the morning rising 262 of the Pleiades. They are collected on the reef by hand by children and adults and form an occasional article of diet, roasted in the shells. The flesh is pulled from the shell with the fingers or a pointed stick. Periwinkles are considered hard to eat and not very satisfying but pleasant enough for a change.

REEF CREATURES

136 Reef creatures found on Pukapuka but not eaten, though sometimes caught on other Polynesian islands for food, are sea porcupines, of which the Pukapukan names four: *wetuke* (a blunt-spined sea porcupine); *tuna* (a

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sharp, long-spined porcupine); *tala pu mutumutu* (a short-spined porcupine); and *ululu akau* (a small, bluish-spined porcupine). If a fisherman steps on the *kalamea*, a sharp-spined starfish, when walking on the reef, his foot is stuck full of spines. He turns over the *kalamea*, places his foot on the suction pads of the creature, and allows it to suck out the spines from his foot. Five varieties of bêche-de-mer are: *matua kalou*, *louili kula*, *louili uli*, *louili akau*, and *louili taupulepule*, which live under the sand. *Unukoa* is a mollusk that lives in a tapering tunnel in the coral. If stepped on, its poisonous shell produces terrible sores in the foot. The shellfish *valuyi* (*Nerita polita*) found on beach or reef, is used as a head for the water bottle scraper, also called *valuyi*. If a man found a jellyfish (*kalukalu moana* and *ngako*) on the reef, he took it home, carefully sun-dried it, and hung it up to the rafters inside the house, for it was believed to have been sent by the god of the paternal lineage and was taken as a sign of the god's good favor. Two varieties of sea centipede are *molokau tai* and *valou*. Only the *valou* are caught and eaten. To obtain them a noose is made in a piece of two-ply twisted sennit and held over the entrance of the sea centipede's hole. Chum of any kind is placed in and around the hole. When the *valou* comes from the hole to get the chum, the noose is drawn tight. Another method is to spear the *valou* through the head as it comes forth to get the chum.

CRABS

Three varieties of crab (generic name *tupua*) are caught on the outer beaches on certain nights of the moon and two stages are distinguished in the monthly growth of the three varieties:

Kaipea are caught on the thirteenth and fourteenth nights; *tupa*, on the fifteenth and sixteenth nights; and *kavea* (robber crab) on the seventeenth and eighteenth nights. During these nights the crabs move from the bush to the sea to wash and change their shells. On other nights of the moon crabs for bait can be obtained inland with more difficulty. On the evening before a man plans a fishing expedition, his children go out with torches after dark, hunting around trees in the bush and in holes. The crabs are put into a basket and kept until ready for use. Enough crabs for one or two weeks' fishing may be collected at one time.

In the first stage of growth (*tasa te tupua*) during the new and full moon the crab is filled with fat much esteemed as a food delicacy. In the second stage (*pupu te tupua*) the fat has turned into yellow masses of eggs that are bursting from the abdomen of the animal. Crabs are not eaten at this time because neither eggs nor fat are considered tasty. *Kavea* is protected at the present time by a general agreement (*pulenga*) because it is thought to be dying out. Only large *kavea* are killed; young ones caught accidentally are freed. Robber crabs in the reserves are kept as reserve food supplies and are caught only by arrangement by the people of the village. This communal catching and distribution of crabs among the people of the village (*lavaya kavea*) enable all the people of the village to share in the food delicacy. If *kavea* were not reserved (*uakeya*), children and active young people would hunt them all the time, and the older people might not receive their fair share.

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226 Three methods are employed to catch *haveu*:

The first method is *lomolomo haveu*. A lighted torch is thrust into the crab hole. The torch smoulders and the smoke forces the crab from its second hole, when it is promptly caught. In the second method (*yokoyoko haveu*) a pointed stick is thrust into the ground or into holes to locate the crab. The hand is then put down into the hole to draw out the crab. The third method is *wakapoo haveu*. Coconut gratings are toasted over a fire until they become highly odorous and are then placed in the bush to attract the crabs. A few hours later a man visits the place and picks up the congregated crabs.

Crab hunting and killing is *wuli tupua*. The crab is picked up by the
252 shell and, with a quick twist, the head is bent back from the mandibles and broken off. It is prepared for eating by roasting.

Bird Catching

223 Of old, birds were caught principally for food, though the feathers were
237 used secondarily as decorations for the hair and for the malo made of sennit. Today feathers are used as flies in fishing.

Birds are part of the reserve land foods and are tapu for most of the
422 time. A decision to lift the tapu is announced to the people by the guards.
621 The young men communally gather the birds which are divided among the people of the village. Small land birds are occasionally caught privately.

223 All birds are considered a great delicacy, but the young *lakia* bird is preferred. The owner of a new canoe might formerly obtain permission from
223 the village to visit the reserves to procure quantities of *lakia* for the feast
262 which marked the conclusion of the work on the canoe. The birds were shared among the people of the village and the canoe afterward referred to as *waka hai lakia*.

231 Birds were never kept as pets or decoys. When caught as a fledgling, a
223 bird was placed alive in a cone-shaped coconut-leaf basket (fig.16)[illegible] and transported back from the reserve therein. The basket with the bird was suspended from a tree near the cook house. The bird was fed with coconut flesh; a new basket was made when the bird grew bigger. When the bird matured, it was killed and eaten. Today a bird is occasionally kept in a small four-sided wooden box hung on a tree near the house. Its wings are broken to prevent escape. It is fed by the children and killed when mature. One man in Yato keeps two semi-wild *noa* birds tied by the leg to a log near his house. When they escaped one day and walked through the village, everyone ran before them with shouts of "Kai tangata!" (Man-eater). It was some time before the birds were recaptured and the village settled down again to normal routine.

223 1. Netting. The method of catching birds by use of the bird net (*wnata*) is termed *wakayei manu* (to encircle the bird with a net). (For technical details of the construction of the net, see p. 209).

1. [See p.170, catgory 116-- analysis]

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Wells

312 332 335 Deep wells dug close to the beach were always faced with coral slabs. Shallow wells, 1 or 2 feet deep, were not faced unless they were in constant use. Slabs at the bottom of the well were stood on edge and forced into the sand; the sand was dug out inside these upright slabs and the bottom of the well paved with coral gravel. Above water level, the sides of the well were faced with horizontal slabs set one above the other. The edge of the well at ground level was faced with especially large blocks of stone to give a firm foothold to the drawer of water and to ensure that the top of the well would not cave in.

226 Figure 20.—Plan of fishweirs. *a*, stone-walled fishweir off western beach of Yato village: walls about 20 feet long, width of three weirs about 60 feet; fish swept into weirs by ebbing tide moving in direction of arrow. *b*, composite weir in lagoon indentation: 1, causeway forms one wall of weir; 2, row of stones set against causeway to block possible channels; 3, row of stones forming second wall of exit (*ala iku*); 4, coconut-leaf weir forms second wall of weir; net placed at convergence of leaf and stone walls to catch fish moving with ebbing tide in direction of arrow.

Fishweirs

Stone fishweirs are found in the reef shallows opposite the northwest beach of Wale, between the beach and the reef passage. One weir is about 100 yards from the beach and consists of stones piled in line to make an enlarged W-shape; the second weir is close to the beach and consists of stones forming a W-shaped trap contiguous with a second trap in the shape of a large square-bottomed U (fig.20,*a*). The weirs face north and south; the exits are at the northern end, that is, at the points of the W and at the two sides of the bottom of the U. The ebbing tide sweeps through the weirs on its way out over the reef and carries the fish along into the weirs blocked with hand scoop nets.

A combination stone and coconut-sweep weir (fig. 20,*b*) is built in the small lagoon indentation cut off from the main lagoon by the causeway that joins the two sections of Yato village. The fisherman seated on the causeway is able to block the exit of the weir with a scoop net.

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322 501 284 holes drilled through each flange (fig. 27, *c*, *g*). No lashing shows on the outside of the hull. This lashing method may be applied to plank canoes of all sizes from the simple *tatai* canoe to the largest canoe.

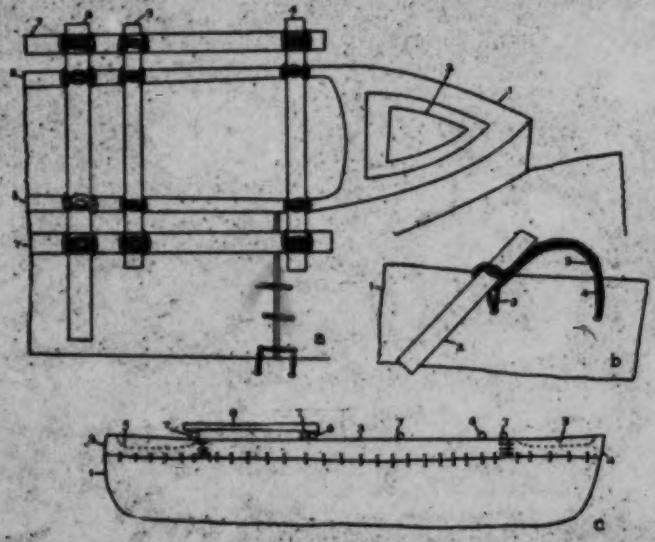

FIGURE 30.—Plank canoe. *a*, arrangement of lifting bars at stern of canoe: 1, raised bait deck (*wahakowoe mona*); 2, bait receptacle (*tuku pukupuku*); 3, washstrakes of canoe; 4, cross lifting bar (*mana hi muli*); 5, second cross bar (*mana a lua*); 6, cross boom supporting outrigger float; 7, longitudinal members (*palepale langaya*) lashed to cross members; lashings all of alternating curves pattern. *b*, lifting loops of sennit (*tuinga ihi*): 1, section of washstrake; 2, cross boom; 3, lashing of boom to strake; 4, four turns of sennit made through hole in strake and around lashing of boom to strake; 5, seizing of these four turns, buried commencement and finish. *c*, *tatai* canoe: 1, one-piece hull; 2, stern cover (*pupuni hi muli*); 3, washstrake; 4, bow cover (*pupuni hi mua*); 5, dotted lines show lowered bait decks in covers; 6, cross booms to outrigger float; 7, short lifting bars; 8, short longitudinal spars (*palepale langaya*) forming lifting supports for stern of canoe.

501 [226] 322 The *tui anini* canoe has definite advantages for reef work over the through and through lashed canoe because of the absence on the outside of the hull of lashings to be cut by sharp coral heads. It has this disadvantage, however, that the water seeps in through the hull joins and rots the wood about the joins of the hull sections. This seepage cannot be prevented by caulking as with the *vaka tui tuta* lashing. If a canoe is used much, the wood

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501 about the hull joins is seldom dry, and after about 10 years the wood becomes so rotten that the flanges break apart. The only remedy is to take 322 the canoe apart, adz off the rotten sections of wood, and rejoin the canoe as a *vaka tui tuta*. The sennit lashing of the *vaka tui tuta* lasts about seven [283] years before it rots. It is easily replaced if care has been taken of the canoe and the wood round the joins has not become rotten through unsuspected water seepage.

501 The customary Pukapukan canoe for deep-sea fishing or voyaging was the single outrigger canoe. At various times, however, the double canoe [226] (*taulua*) was made and used, particularly for regular fishing trips to Tima Reef. A time is remembered when three double canoes were in commission 177 on the atoll. Tradition seems to indicate that the art of making double canoes was introduced by returning Pukapukan navigators. The chief Wue (who lived about 14 generations ago) is reputed by some to have been the first man to build a double canoe in Pukapuka; he modeled it after one he had seen in his travels abroad. Lack of sufficiently large timber is given as the reason why few double canoes were built. No informant had seen a Pukapukan double canoe. The following brief description is based on traditional information only:

The larger of the two canoes was to leeward and carried the two masts. The smaller canoe acted as an outrigger and was to windward. Cross booms (*kaukau*) joining the two canoes were probably logs of pandanus, three booms being necessary to provide a stable support. Both canoes were completely decked with logs of *puapua* wood, save for holes or hatchways that served as bailing cockpits and gave entrance to stores and fishing gear loaded inside the hull of the windward canoe. Diagonal cross braces from the stern and bow of each canoe to the fore and aft cross booms were termed *takai*. A platform (*papanga taulua*) laid across the booms was occupied by the crew and passengers who also used the leeward canoe for shelter. On one part of the platform was placed a small house which functioned as a god house (*wale atua*). No details are preserved of lashings or sizes of these double canoes. But it is likely that the reason the single outrigger was the preferred canoe is that it could be made more seaworthy because the outrigger could be more strongly lashed to the hull than 502 on the big and unwieldy double canoe. The double canoe was steered by two or three steering paddles, one man steering from one canoe and the second man from the platform between the canoes. Should a sudden turn be desired, the two steersmen were reenforced by a third who assisted from the stern of the second canoe.

To change the direction of any canoe is *wuli* or *wuuuli*. The change of direction is to starboard (*hi katea*) or to port (*hi ama*). The bowman calls out the direction of change thus: *La ama!* or *La katea!* When the required direction is defined, he calls out: *Tawi ai!* (Hold it now!)

501 Variations on the fundamental construction pattern of the Pukapukan canoe are few:

322 In one single-piece dugout canoe, rather large for its type, greater stability was given to the two outrigger cross booms by projecting the ends of these booms about 18 inches beyond the starboard side of the hull and lashing to these ends a longitudinal

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An extra sail support is needed with the gaff sail (fig. 32). This sprit is termed *toko*. At the lower end it rests in a snotter (*wakawaupa no te toko*) fastened to the mast. In a strong wind blowing directly aft, the gaff sail is supported by a further stay that runs from the head of the sprit to the stern cross lifting bar, occasionally to the curve of the stern piece around which it is fastened.

For a one-man canoe for sailing to the islets, a rough-and-ready sail is made from a coconut-leaf mat (*takapau*). A pole is stepped in the canoe and lashed to the forward cross boom. The midrib side of the mat is fastened to the pole with sheets of coconut fiber (*kalavu*) and the outer edges of the mat stayed by guys passing to the hand of the sailor who sits in the stern of the canoe and steers. A *takapau* mat catches ample wind to speed along a small canoe.

The mast of any Pukapukan canoe is mounted at either end of the canoe, the outrigger being invariably kept to windward. The canoe can not tack without unshipping the mast and setting it up at the other end of the canoe. Sailing fast (*kalali* or *yolo*) in a heavy wind, some members of the crew rest their weight on the outrigger cross booms in order to counterbalance any tendency of the outrigger to lift out of the water. Under sail a Pukapukan canoe lies close to the wind, but tends to make rapid leeway for want of a keel.

Paddle and Bailer

The Pukapukan paddle (*uoe*, fig. 26,*f*) has a projecting knob (*mata*) at the distal end of the blade. This knob has a dual function. It protects the blade (*laulau uoe*) when the canoe is being poled over lagoon shallows, and, when the paddle is brought from the water with a sharp wrench after a short jab stroke, the knob makes, in contact with the water, a short, sharp, ringing sound (*hoe tangi te uoe*), used to attract fish to the fishing canoes. It is a very characteristic sound in Pukapukan paddling, and whenever it is necessary to imitate a canoe in May Day play festivals, a file of men walk about making this sound with their lips, at the same time raising and lowering their arms.

The paddle is used on both port and starboard sides of the canoe. The outrigger does not offer great impediment to the typical short, jabbing strokes of the Pukapukan paddler. Any paddle is used indifferently for steering and paddling. Formerly the paddle was always held with the back (*tua*) turned toward the rear of the canoe. This usage (*ole tua*) is reserved today for short spurts and for making the paddle resound, the front (*aloalo* or *tukeuke*) of the paddle being now customarily directed toward the rear.

Each canoe has as part of its equipment a long pole (*toko*) used for poling the canoe over reef shallows. Some canoes returning to Wale from Motu Ko hug the reef circuit and make good speed with two people poling, one in the bow and one in the stern.

The bailer (*tuta*, fig. 26,*g*) is of common Polynesian type. It is not decorated with carving. In use, the bailer is not filled, lifted, and emptied over the side of the canoe, but water is gathered from the bottom of the hull and shot out with one vigorous and continuous scoop. In small canoes, an empty coconut shell serves as a bailer.

Measurements

The principal measurements of seven Pukapukan canoes are given in Table 3. These measurements may be compared with those of the 13-seater canoe shown in figure 25.

The amount by which the forward end of the outrigger float is set to starboard to assist the steering qualities of the canoe ranges in the canoes measured from 2 to 6 inches, with an average of about 3½ inches. Pukapukan canoe builders gave no rule

1:Beaglehole and Beaglehole E-5 (1934-5)1938 Pukapukans

for judging this amount, but said that they judged by the eye. Kennedy discovered from a study of canoes of Vaitupu that the "limiting amount by which the forward end of the float is set to starboard is about one hand's breadth from a line through the after end of the float parallel with the hull" (19, p. 94); this amount agrees closely with the Pukapukan average for this starboard set, though there seems to be little correlation between the size of the canoe and the amount of starboard set considered necessary. The required balance weight of the float seems to be obtained almost entirely by lengthening the float, for the width and depth of the float do not vary greatly save for the larger canoes. The length of the float in relation to the overall length of the canoe indicates that the Pukapukan builders unconsciously judged the float length by some such rule as Kennedy (19, p. 79) gives for Vaitupu where the outrigger is given a length such that the forward end will be laterally opposite the feet of the bow paddler and the after end opposite the feet of the rearmost paddler. Again, Pukapukan builders could give no rule for judging the proper length of the outrigger float save an eye judgment.

Table 3. Canoe Measurements

Type	1 Overall Length	2 Beam (Gunwales)	3 Beam (Hull)	4 Depth (Centre Canoe)	5 Length, Forward Cross Beam	6 Forward Cross Beam, Hull to Outrigger	7 Rear Cross Beam, Hull to Outrigger	8 Length, Lengthwise Stick	9 Length, Outrigger Float	10 Width, Depth, Outrigger Section	11 Length, Stern Piece (Tip to Gunwale Join)	12 Length, Bow Piece (Tip to Gunwale Join)
Single dugout (large)	16′	14″	14″	16″	7′ 5″	6′ 3″	6′ 7″	9′ 10″	12′	5½″×4½″	—	—
Tutui tolutui one-man canoe	10′ 6″	10″	8″	17″	5′ 5″	4′ 7″	4′ 9″	6′ 4″	7′ 8″	5″×3″	—	—
Tutui tokalua two-man canoe	19′	11″	9″	16″	6′ 6″	3′ 7″	5′ 10″	9′	13′ 3″	6″×4″	4′ 3″	3′ 9″
Yeke tolu 3-seater	16′ 6″	11″	7″	15½″	5′ 6″	4′ 10″	5′	9′ 6″	12′	5″×3½″	3′ 6″	3′ 7″
Yeke va 4-seater	21′ 11″	14″	11″	18″	6′ 6″	4′ 8″	5′ 1″	10′ 4″	16′ 4″	5½″×4″	3′ 11″	3′ 4″
Yeke ono 6-seater	35′ 6″	15″	11″	20″	8′ 1″	5′ 10″	5′ 10″	18′	22′ 6″	7″×6″	5′ 2″	6′ 7″
Yeke iva 9-seater	51′	22″	14″	27″	8′ 8″	7′ 8″	8′ 7″	27′ 6″	32′ 8″	7″×7″	—	—

FISHING EQUIPMENT

Besides fishnets (p. 208) and hooks (p. 191), fishing equipment includes lines, fishing rods, composite fishing apparatus, clubs, fish spears, and hook containers.

Fishlines

Lines of *usoo* fiber are used on composite pearl-shell fishhooks where quality rather than length of line is important. Three-ply braided sennit

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226 lines are used for deep-sea fishing where both length and strength are desirable. These are made in three lengths, each from 50 to 75 fathoms long. The three lengths, called respectively *kawa lalo, kawa loto, kawa lunga* (sennit bottom, middle, top), are tied together with prominent knots. In paying out his line the fisherman feels the knots as the line runs through his hands to gauge the depth at which he is fishing, and is then able to fish at the depth at which he believes the particular fish bite best. Anchor lines of thick three-ply sennit braid are in continual use for deep-sea fishing. For tiny fish such as *lupo* a line of single pieces of coconut fiber is used with a gorge of pandanus spine.

227 One such line (C8043) wound round a wooden holder consists of 34 lengths of
284 coconut fiber, each about 10 inches long, knotted together; the line is finished with one length of very fine two-ply twisted *uso* and a snood of the finest single ply twisted *uso*, total length being 32 feet.

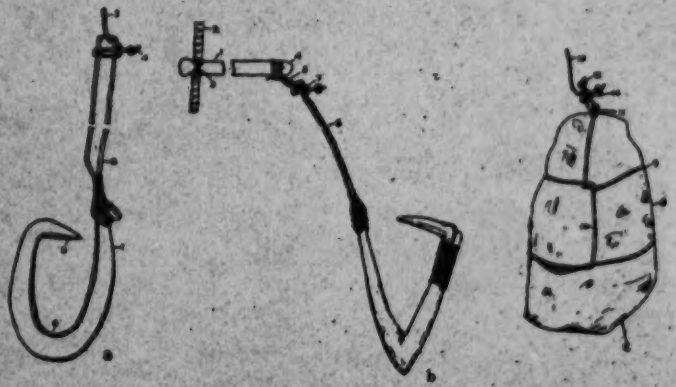

FIGURE 33.—Fishing equipment. *a*, attachment of double snood to fishline (shown diagrammatically): looped double snood (2) lashed to shank of coconut-shell fishhook (1) with descending figure-of-eight turns; end of fishline (3) knotted (4); free end passes around loop and back on far side of loop, then over near side, through top of loop and pulls tight. Coconut-shell hook (*tope ngalpu*) (C8196) 3¼ inches high, 1¼ inches in greatest width with point-shank clearance of ¾ inch; bend ⅜ inch wide, ⅛ inch thick; inner edges of point (5), bend (6), and shank (1) beveled slightly. *b*, composite fishing apparatus (*inumakomako*) (C8190): spreader stick (1) attached to secondary snood (2); snood lashed with diagonal turns (3) of fine *uso*; at distal end of stick (4), short piece of *uso* (5) doubled and lashed to stick with transverse turns; snood (6) of hook is knotted to doubled *uso* (7); wooden hook (*kau*) small with scarf join accentuated. *c*, sinker for apparatus: sinker (8) block of coral (*punga*); one end of anchor line (9) makes two transverse turns around sinker, other end (10) caught by turns; at top, two free ends fasten with double overhand knot (11), then looped, and ends fastened again with overhand knot (12); sinker line proper (13) from fishing apparatus knotted in loop (14).

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227 284 Secondary snoods (*matai*) are made of twisted *wao*. They are either single or double. Single snoods are fastened to fishline by knotting. Double snoods seem to be a feature of coconut-shell fishhooks. The attachment of these snoods to the fishline is shown in figure 33*a*.

Many lines used in fishing from the beach (*wakamoe* system) are wound on a wooden holder (*muli pokai*), their hooks supported by floats.

Rods

226 284 For *kaloma* fishing, reef and lagoon angling, and trolling with a composite pearl-shell hook, the fishing line is attached to a rod (*matila*). The total length of fishline attached to the rod is several feet longer than the amount of line necessary for a cast.

The fisherman judges the length necessary for a cast and makes at this point a clove hitch round the distal end of the rod. The free end of the attachment line he carries down the rod, making a single transverse turn with a single overhand knot round the rod at equal intervals. Toward the proximal end of the rod, he makes several transverse turns round the rod and fastens the free end of the line to the standing line with an overhand knot. For carrying to and from the fishing ground, the casting line with hook attached is laid along the rod, a transverse turn fixed with a single overhand knot is made round the rod toward the proximal end, and the free end of the casting line carried up the rod again; the hook is caught in one of the transverse turns made round the rod by the attachment line.

227 284 The *kaloma* rod, *matila kaloma* (Cl137), is made of *puapua* wood, 4 feet 6 inches long, ¾ inch in diameter at the proximal end, ⅛ inch diameter at distal end. The line is very fine two-ply twisted *wao* (about the thickness of no. 50 cotton thread). The casting line is about 4 feet 6 inches long, the attachment line 14 inches long.

A larger fish rod for needle fish (*matila ki akuaku*) and reef fish is also made of *puapua* wood (Cl098); it is 8 feet 9½ inches long, ¾ inch in diameter at the proximal end, ⅜ inch in diameter at the distal end. The line is fine two-ply twisted *wao* (about the thickness of coarse thread). The casting line is 12 feet long, the attachment line 5 feet long.

The attachment of bonito hook line to the bonito trolling rod (*matila atu*) is by a clove hitch to the distal end of the rod. Where more than one hook is attached to the same rod, the several clove hitches are fastened round the rod below each other (fig. 34*a*). The bonito line, of thick three-ply twisted *wao*, is about 20 feet long and is attached to the rod at a point about 10 to 12 feet from the hook, depending on the length of casting line that the fisherman desires. The free end of the line is wound round the rod with oblique downward spiral transverse turns and tied about the middle of the rod with an overhand knot. The free ends of several attached hooks wound thus round the rod produce a pleasing pattern lashing on the rod.

The bonito rod is fitted into a wooden handle (*tukau*) which has an upper grooved part into which the proximal end of the rod fits, a raised flat projection (*malae tukau*) covered with netting, and a handgrip (*muli tukau*) at the end. The shape of the handle and the method of lashing the rod are shown in figure 34*b*. The completed lashing resembles the completed Samoan lashing of bonito rod to handle (27, p. 503) though the technique of lashing differs slightly.

The netting covering the flat projection above the handgrip is made by the ordinary netting technique and is fastened round the handle by transverse cords that pass through the marginal meshes above and below the projection. When lines and hooks are attached to the rod, the casting line is carried down the rod and the hooks caught through the

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netting meshes. For use, an appropriate hook is selected, disengaged from the netting meshes and allowed to hang free from the distal end of the rod. If fish do not bite this hook, it is replaced in the net and another hook disengaged. With six or more hooks attached to the rod at one time, the fisherman is able with maximum speed and minimum trouble to select the hook which the fish prefer to bite.

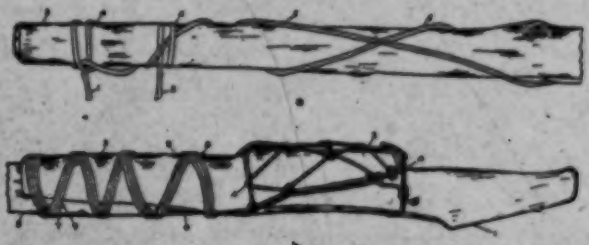

FIGURE 34.—Bonito rod. *a*, attachment of casting line: 1, 2, casting lines attach two hooks to distal end of rod (3); 4, clove hitches made around end of rod; casting lines hang free; attachment lines (5) wound spirally around rod and fastened halfway down rod. *b*, attachment to handle (*takou*), side view: 1, handle of *pukanova* wood with handgrip (*muli takou*); 2, raised flat projection (*mulee takou*); 3, hollowed out upper part; raised projection covered with netting (*epu*) fastened to handle by cords passing through marginal meshes (4); rod (5) pushed into hollowed upper part, chocked if necessary with small wedges of wood (6); lashing of three-ply braided sennit commences with buried end (7) at upper end of handle, then wound around handle and rod descending spirally, then up handle and rod ascending spirally; continues alternate spirals, descending and ascending, for three turns each way (8), and finishes with buried end (9).

Nooses

Noosing apparatus consists of a line of three-ply twisted *nuo* about 18 feet long and a stick (*kou*) by which the noose is brought near the fish.

The stick (CB132) is of *puapua* wood, 6 feet long, ¾ inch in diameter at the proximal end, ⅜ inch in diameter at the distal end (fig. 4*c*). The distal end is notched to provide a running groove for the line on which a running noose (*motapili*) is made with a slip noose (*mayi*). Line and handle together are termed *kowpele*.

Composite Fishing Apparatus

For deep-sea hand line fishing from a stationary canoe outside the reef (*tukumoana* system), a composite fishing apparatus (*taumakomako*) consisting of a number of hooks attached to one line is used.

Of two types of *taumakomako* in use, one (CB190) has a secondary snood (*matui kawa*) of three-ply sennit 6 feet 8 inches long. At a point 2 feet from the proximal end of this snood a *ngangie* spreader stick, 5¾ inches long, ¾ inch in diameter, is lashed. The proximal end of the stick is grooved circumferentially and the snood fastened to the stick by four oblique transverse turns of fine two-ply twisted *nuo*, followed by three circumferential turns between stick and snood, the finishing end being buried

1:Beaglehole and Beaglehole E-5 (1934-5)1938 Pukapukans

227 in three transverse turns round the snood (fig. 33*b*). Five spreader sticks 9 inches apart
254 are attached to the snood in this way, being lashed so that the distal ends of the sticks project alternately to the left and to the right of the snood. The distal end of each spreader stick is also grooved circumferentially, and a length of twisted wau, 1¾ inches long, is doubled and the free ends fastened to the spreader stick groove by transverse turns of fine wau. To this double spreader stick snood, the fishhook snood proper is fastened by the method of knotting illustrated in figure 33*b*. Five fishhooks are attached to the five spreader sticks. By making these sticks project alternately to left and to right, the danger of tangling the hooks in use is avoided.

Informants mentioned another type of *tauaakomako* formerly in use. It consisted of two crossed spreader sticks of *upangie* wood, each stick about 18 inches long, with a cross section diameter of about 1½ inches. To the ends of each spreader a snood was seized. The four snoods ranged in length from 2½ to 6 feet so that four fish caught on wooden hooks knotted to each snood would not tangle the snood lines. At the intersection of the spreaders, a sinker line (*hauatau tuku maeau*), 12 inches long, was fastened to suspend the sinker (*maeau*) of *puupa* coral. Also at the intersection of the spreaders was knotted a secondary snood (*watai*) 12 feet long. To the watai was fastened sennit fishline about 200 fathoms long.

Sinkers

[726] For fishing at moderate depths of 50 or 75 fathoms, sinkers (*maeau*) consist of any coral stones of suitable weight picked up on the beach. Because these sinkers are disengaged from the line and fall to the bottom when the hook has reached the required depth it is pointless to use any but rough stones. In *tukumoona* fishing, one sinker weighing about 9 pounds is used repeatedly. Even for this the Pukapukan fisherman has apparently felt no incentive to make well-shaped or bored sinkers. He chooses as a sinker stone a block of coral that is roughly rectangular or cone-shaped. If the surface is not rough enough to hold the sinker line without slipping, it is chipped slightly to form two transverse grooves into which the sinker line fits. This line is attached to the sinker by transverse turns and knotted to the secondary snood (see figure 33*c*).

Fish Club

227 Fish clubs (*patu ika*) are made of *upangie* wood; their size and weight depend on the fish which it is proposed to kill with them. A small club is used for *patuki* and other reef fish caught in reef angling or canoe fishing.

This club (C8169) is shaped like a small taio pounder with a blunt proximal end. It is 16 inches long, 2 inches in diameter at the distal end, 1 inch in diameter at the proximal end. The distal end is slightly convex. The club weighs 1¾ pounds. Larger clubs weighing up to 5 pounds are used for larger deep-sea fish. Today a section of iron bar is often used as a fish club.

Hook Containers

[415] When not in use, small, valuable single and composite pearl-shell hooks are kept in the house stored in the double satchel (*tukuma pu*) described elsewhere (p. 134). Hooks and small fishing gear when taken into a canoe are kept for safety in a coconut-shell container (*pupu*).

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227 of the hook. The hooks are made from black- or gold-lipped pearl shell and
254 provided with snoods of *wau* cord. They may be classified by shape into three types: a U-shaped hook, a circular hook that is usually barbed, and a slanted U-shaped hook that may be barbed.

FIGURE 38.—Shell fishhooks. *a*, pearl-shell hook (*yobi kalowa*) (CB158): hook 3/16 inch high, 1/8 inch wide, and 1/16 inch thick; point (1) short, making point-shank clearance comparatively wide; inner and outer surfaces of point limb (2), bend (3), and shank (4) beveled; shank knob (5) flush with proximal end of shank; snood of finest two-ply twisted *wau* (6) fastened to shank by three transverse turns with free end of snood line which effectively holds snood fast to shank; finishing end (7) tucked under turns and held tight; bait string (not shown) of *wau* fiber wound around bend of hook. *b*, barbless, slanted U-hook (*tai wau*) of gold-lipped shell (CB224): hook 1 inch high, 3/16 inch wide; edges beveled, but owing to irregular shape of shell, point directed away from medial longitudinal line of shank; point (1) bends slightly from point limb (2); wide point-shank clearance; snood (3) of *wau* cord fastened to shank by lashing meant to be descending figure-of-eight turns, but very irregular (4) owing to fact that worker suffered from bad eyesight. *c*, pearl-shell hook (*wahaolo ya kahai*) for albacore (CB164): hook 2 inches high, 1 3/16 inches wide; edges beveled; point (1) bends slightly from point limb (2); barb (3) runs from point at acute angle, barb-point edge straight, beveled slightly; wide point-shank clearance; snood (4) of three-ply *wau* cord fastened to shank with descending figure-of-eight turns; finishing end of lashing seizes snood for length of 1/4 inch or 5.

226 / 177 **U-shaped hooks.** Small U-shaped hooks (*yobi*) are used for beach angling and for catching the smaller lagoon fish by other fishing methods.

An example of the *yobi* hook (fig. 38*a*) is minute and almost as wide as it is high. It was used for catching *kalowa* fish before European pins came into use. It is a beautifully made hook and shows craftsmanship of high order. The term *yobi* is applied to hooks of this general shape up to about 1 or 1 1/4 inches high when the name *tope* comes into use. *Tope* hooks are U-shaped, but tend to be higher than they are wide. The name is also applied to hooks of other material such as turtle shell or coconut shell which have this general shape. The type *tope* hook of pearl shell is shown in figure 39*a*. Other *tope* hooks in the Bishop Museum collection range in height from 1 3/16 to 1 3/4 inches and in greatest outside width from 1 inch to 1 5/16 inches. They are made of gold- or black-lipped shell; descending or ascending figure-of-eight lashings attach the snood of two- or three-ply *wau* cord to the shank of the hook. They are provided with bait strings.

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227 284 **Circular hooks.** Circular pearl-shell hooks (*matau* and *wakavae*) are made with a barb (*wakatala*). Most of these hooks are as wide as they are high, but the size of the barb varies considerably (fig.39,*b*). In most hooks, the functional point is level with the lowest transverse turn of the snood lashing, directly opposite a point about 3/16 inch below the proximal end of the shank.

In one hook examined in the field, however, the inner curve of the hook was almost a perfect circle, the functional point being on a level with the top of the snood lashing and the proximal end of the shank. Another unusual feature observed on an old hook of this type was a pronounced terminal knob at the proximal end of the shank, separate from, and other than, the customary shank knob which was also cut on the outside of the shank.

a b

FIGURE 39—One-piece shell hooks. *a*, U-shaped hook (*tope*): greatest length 2 inches, greatest width 1⅝ inches, point-shank clearance ⅜ inch; *b*, circular hook (*matau or wakavae*): greatest length 1½ inches, greatest width 1⅜ inches, point-shank clearance ⅜ inch; barb (*wakatala*) markedly concave and beveled; snood thick two-ply sinnet cord fastened to shank with descending figure-of-eight turns. 1, shank; 2, shank knob; 3, head; 4, point limb; 5, point; 6, snood; 7, snood lashings; 8, barb. (Reproduced from Macgregor, 20, fig. 4.)

126 176 There can be no doubt that the barbed hook is native to Pukapuka and antedates European influence. The first man to make the barbed hook is said to have been Te Upe, a man of Loto who lived in the reign of Maina, twelve generations ago. His name is mentioned in connection with barbed hooks in an old chant "Ulu taku tangi". Beasley (4, p. 34, pls. XLIX A and XLIX B) figures six hooks of this type apparently collected by Gill prior to 1877. Beasley attributes the hooks to "Pukapuka, Paumotu group", an evident mistake. The figured hooks range in height from 1½ to 2¾ inches.

227 **Slanted-U hooks.** Slanted U-shaped hooks, large enough to be called *wakaolo* or *wakavae* and used for albacore fishing, have barbs. Small hooks of this type without barbs are called *twi uwa* (fig.38,*b*) and are used to catch the smaller reef fish.

These hooks are much higher than they are wide. The point limb is short compared with the length of the shank and the functional point bends only slightly from the plane of the point limb. The barb runs from the point at a very acute angle making a large point-shank clearance (fig. 38,*b*, *c*).

Despite a superficial similarity in shape of the hook shown in figure 38,*c* to European fishhooks, informants were positive that this type of barbed fishhook was native

1:Beaglehole and Beaglehole E-5 (1934-5)1938 Pukapukans

transferred to the smaller sub-lineages, took the place of exogamy in moiety and lineage. As long as there was one lineage in the *utu*, the *utu* was exogamous. When many sub-lineages developed within the *utu*, the sub-lineage still remained exogamous but not the lineage, since blood relationship was closer, owing to consanguinity, within the simple sub-lineage than within the wider grouping. This is admittedly speculation, but it explains the manner in which the fundamental pattern of exogamic matrilineal groups, so widespread in western Oceania, may have developed in the evolution of Pukapukan society.

The maternal lineage functions as a unit in fishing and sporting contests, and in certain types of food divisions. (See pp. 231-232.)

Some informants believed that the four major lineages divided into two moieties (each called for this purpose *vahatai*) once formed fighting units occasionally opposed to each other. Such a moiety fighting force had no organization and was commanded by a selected warrior (*toa*). Other informants stated, however, that there is no record in Pukapukan history of such fighting as this arrangement would suggest, with all the men of the island engaged in pitched battles. This is certainly true; Pukapukan fighting in general seems to have been a matter of one age group tyrannizing over another group, petty murders, guerilla revenges, and killings by violent chiefs. More important conflicts over land boundaries were always decided on a village basis, with no scope for moiety division. It is possible that moiety divisions for games and contests were at one time more customary than single lineage divisions, and the belief about fighting units is merely an extension of a type of organization, which, in terms of Pukapukan patterns, represents the most reasonable division to cover warfare were it ever a matter of importance to the community.

Today the maternal sub-lineages, not the lineages or moiety groupings of lineages, have effective economic functions in the control of land, principally the control of talo beds. The talo beds owned by a sub-lineage are divided among both male and female members of the sub-lineage. There is no permanent subdivision of these talo beds; but they are divided at regular intervals as composition of the sub-lineage corporation is altered by birth and death. The ultimate controlling unit of the sub-lineage land is, of course, the major lineage; when a sub-lineage dies out, the talo beds are redivided among the remaining sub-lineages of the group.

Formerly the sub-lineage assumed collective responsibility for antisocial actions voluntarily or involuntarily performed by its members. This is clearly brought out in historical stories relating to homicide (1). When a man commits manslaughter such that the island as a whole concerns itself with retributive punishment, his maternal sub-lineage either allows itself to be punished along with the guilty individual or else assumes responsibility for the punishment or suicide of the murderer. When punishment by drowning is decreed, members of the sub-lineage may feel the disgrace so keenly that they will bury the body secretly by night, even though in so doing they oppose majority opinion and would be severely punished themselves if discovered. That it is always the maternal and not the paternal sub-group which is charged with responsibility in these matters, stresses the strength of relationship ties based on maternal descent.

618 616 613 297 621 578 226

period, organization was in terms of either sons or *pelongis* units. Village membership is the rule for town organization today, so that Loto village connects with Ngake and with Yato villages. It is probable that missionary effort hastened this change. Informants believed, however, that groupings of maternal or paternal units are superior to the village grouping. The following example was given: suppose there is a man who was born in Ngake, but who affiliates and resides (*nofo*) in Yato. In an inter-village contest he fishes for Yato. He hooks a fish. If he pulls it into his canoe, his Ngake friends are angry with him for catching a fish for a rival village, and thus helping to defeat the village of his birth. If he lets the fish escape, his Yato friends are angry with him for remembering the village of his birth to the exclusion of his adopted village. Hence the man is at the *mercy* of conflicting loyalties, and he antagonizes friends whichever way he acts. The old maternal or paternal organization, therefore, was superior to the present village division.

612 621 618 574

Food divisions following fishing contests and other games are always in terms of either maternal or paternal organization. They are arranged in advance by village elders and food distributors. Before the division of food for a fishing contest (*maiaasa*), the food dividers asked me how I wished the food to be divided. As I left the responsibility to them, they decided to make the division on the paternal (*pelongi*) principle. The food was first divided into three equal piles for the villages; then each pile was divided among the paternal lineages of each village.

Food divisions at marriage and birth feasts were formerly always in terms of maternal units. This is still common today, though division is sometimes made among the actual household groups concerned in the marriage. Food divisions of reserve lands produce are always in terms of village division. This follows the rule that control of reserves and work thereon is always maintained by village groupings.

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It is a permissible speculation to consider Pukapukan history as a struggle for dominance between these three social groupings, principally however, between the maternal and paternal lineages. At the present time, the paternal lineage is much more important in social organization than the maternal grouping. The maternal sub-lineages still influence marriage and control land, but they share these functions with the paternal lineages and with the villages. The smaller maternal lineages seem to be dying out, or at least to be more and more subsumed by the moiety groupings. Dwindling numbers could easily be remedied by recourse to adoption, but maternal lineage adoption is rare, for the reason that few wish to take the trouble to keep the maternal lineages alive. The fact that the maternal lineage membership of the principal characters in legends and stories are not remembered suggests that even in an immediate past these groupings were not so important as the paternal groupings. At the present time, the paternal lineage is strong in its control of wealth, rank, inheritance, and succession. Both paternal and maternal lineages control food divisions and previously controlled organization for contests.

114 171 611 498

Kennedy (1931:297), speaking of Vaitupuan social structure, especially with reference to the exchange of presents at marriage and birth, sees definite evidence "of dual organization and matrilineal descent". The maternal lineage in Pukapuka also functions as a controlling unit at birth and marriage. Kennedy believes that in respect to dual organization, Vaitupu "was at a

1. Beaglehole 2. Beaglehole E-5 (1934-5) 1938 Pukapukans

dressed in their kilts. They remained at home and helped with general domestic tasks and in the preparation of the food to be given each day to the old men (*tupele*). The boys, however, went to the reserves on each of two days to get nuts.

In the big canoes of the old men all the graduating boys from the three villages went together on the first day to Motu Ko, on the second day to Motu Kotawa. At the reserve they got enough nuts to fill their canoes, at the same time being permitted to eat all the reserved foods they wished: nuts, birds, taro, crabs, and other foods. In the evening the boys sailed the canoes back to Wale. As they neared the beach at Wale, the champion wrestler of the graduating group stood in the bow of the foremost canoe. A champion wrestler from the young men's group (*lopa* or *mulivaka*) stepped forward on the beach. The wrestler in the canoe performed the *lupe* ritual (p. 322) to challenge the man on the beach, who then made *lupe* in counter-challenge. When the canoes grounded on the beach, the graduates' champion leaped ashore, and the two wrestlers engaged on the beach before the assembled people. Several bouts might be held between graduates and the men's groups. The graduate champion who defeated the village champion gained great renown from this encounter and the right to call himself champion of the island. The evening wrestling on the second day concluded the rite of adulthood and the boys were now considered young men.

After attaining adulthood young men or women were eligible to marry, to receive adults' food shares, and to perform all the duties of adult members of the community.

Young Men's Fishing Group

Having become adults, the young men of a *tai tangata* (birth class) next graduated to the *tangaŋa* fishing group. Some informants said that the boys belonged to this group for two years, but membership of the *taŋaŋa* group was normally for six months, until the boys of the next birth class were ready to take their place. If, however, the succeeding group was small, the preceding group would continue to help with the *taŋaŋa* fishing until successive graduating groups became sufficiently numerous to enable them to retire from the daily fishing expeditions.

The *taŋaŋa* fishing group was arranged at a meeting of the old men (*tupele*) held immediately after the adulthood rites were finished. Some informants thought that all the new adults went fishing together in one or more canoes, depending on the number of graduates. Others believed that each boy chose a crew from among his male relatives so that, if there were seven boys in a birth class, there would be seven canoes fishing each day. Probably this second belief is mistaken. But if there were only two or three boys in a birth class and if it was impossible to draw on preceding age groups, these boys would call on their relatives to make up a crew. The nominal leader of the *taŋaŋa* group was the member of the birth class after whom the birth class was named. He was responsible for the conduct of each day's fishing operations, arranged for fishing gear, canoes, and bait, and attended to the handing-over of the fish to the old men.

The *taŋaŋa* fished for such deep-sea fish as bonito, turtle, albacore, and other *tau matua* (large deep-sea) fish. They went out over the reef each day it was possible to make the passage. After catching enough fish for the

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day (one or two *pala* or albacore would be sufficient) the boys returned to the village and took the fish to the old men, who divided them primarily among themselves and secondarily among the people of the island if the catch was large. Reef fish, rock fish, and other non-deep-sea fish caught by the *tangata* were kept by the boys for their own food. The old men gave some of the talo they received each day in the form of gifts and contributions from the old men's households to the *tangata* boys to eat on their fishing expeditions. It was this food which the graduated girls helped the women of their households to prepare. After returning from fishing, the boys were free from formal duties for the rest of the day.

Seclusion

Some time after a group of boys and girls had attained adulthood a paternal lineage (*po*) might decide to hold a *kaitau tukayowi*, an institutionalized seclusion period intended to fatten their bodies, whiten their skin, and so make good marriages for the children of the *po*:

> Any number of boys and girls, generally from one to six from a lineage, might be selected. There were separate houses of seclusion (*wale kaitau*) for each sex. The *wale kaitau* (any house chosen for the purpose) was made quite dark by covering the walls (*paipai te wale*) with several layers of overlapping wall sheets and mats. The floor was first covered with mats, then with *palaka* and *lau kotoma* fern leaves over which coconut oil was liberally spread. The secluded children were made to lie on the leaves, their bodies and heads completely covered with mats. They might eat, lie, or sleep in any position provided they kept well covered. They were given especially fattening foods in large quantities. The food for the following day was pushed into the house at night under the lowest wall sheet so that no light might leak in. Two male relatives guarded the boys' house, and two female relatives the girls' house. The guards (*tauta*) remained continuously outside the house to see that no prowlers entered. Accompanied by a guard, the children, covered tightly with mats bound with sennit, left the house at night to evacuate. The beach they went to was referred to as the *saka wale*, which was also the special term for defecating used only in reference to *kaitau* children. The guards made sure the children did not stray abroad but returned to the house immediately. The young people were kept thus in seclusion for one moon.

When the house was opened up, the children, fat and fair, were taken to the beach to bathe. After being inspected by the members of the paternal lineage, each girl was dressed in two kilts, each boy in a new malo. Decorated with pearl-shell and flower ornaments, they were paraded through the village for all to admire. All the people came to see their beauty, expressing admiration in such terms as, "How beautiful, how fat, how fair", and wondering what men or women would be lucky enough to get such husbands and wives. Only a man who was a good fisherman and rich in nuts and talo could hope to get a fat, fair wife, and only a fat woman would be able to get a *kaitau* husband. The parade over, the girls returned to normal life with the expectation of making a desirable marriage. For the boys there was often a further ceremony (*kaitau lukipoko*):

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human body. She was also specially consulted by the supreme chief when it was necessary to conceal the island from hostile canoes, or in cases of anti-social conduct harmful to the life of the island as a whole, such as disobedience, thieving, breaking of tapus. If individual stealing from the reserves was reported to this goddess by her priest, Taua would send sickness or cause the thief to miss his step next time he climbed a tree and so fall to the ground.

Tumulivaka, the son of the god Mataliki, was one of the more important gods of the Ngake lineage of Muliwutu. Nothing specific is remembered about his functions.

Te Vayi, another god of Muliwutu, was guardian of the eight-walled structure (*pa vulu*) in the Underworld, and in this capacity could be called upon to punish deserting or adulterous husbands of any lineage by burning their souls in his fire. It is not clear whether this concept of burning a living soul is ancient.

Yawenga was a third god of Muliwutu. He became an ancestor god after he had broken the tapu against eating coconut with turtle flesh, the punishment for which was drowning by a turtle. He was later promoted to the status of an *atua punupunu*.

Te Matakiate, the daughter of Mataliki, and Malokitelangi were the principal gods of the Ngake lineage of Matanga. Their functions were general and they made no specialty of curing sickness. Malokitelangi's rainbow sign of approval was essential in the choice of chief for this lineage.

Tumailangi, god of the sub-lineage (*suhavai*) Paku of Matanga, had no separate religious structure of his own, but was consulted either in the god house of his sub-lineage, or else on the religious structure of the god Malokitelangi. He was a god with special curing powers, available to all the people of the island, but was always consulted through a priest of his sub-lineage.

Tamyei, a major god of i Tua, and the god in charge of all the coconut trees on the island, was remembered with a gift of nuts, placed aside for him whenever the chief of the island made a special *laukava* food distribution. It was also considered pleasing to this god if coconut husks were picked up, arranged neatly, and covered with humus or sand.

Kui, at first an ancestor god, later came by promotion to be god of Yangalipule lineage. His exploits as a human being during the reign of the chief Kamola are recorded elsewhere (1).

Tamalanga, first an ancestor god and then an *atua punupunu* of Yamanga lineage of Yato, was originally a child aged ten months drowned in a taro swamp after it had become flooded by heavy rains. He had special powers over fish; when the people of Yamanga went fishing they prayed

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[226] to this god to send fish close to the surface so that they might be more easily
776 noosed.

Te Maungatu, another god of Yamaunga, seems to have had no special
613 powers other than those relating to the general protection of his worshipers.

Te Mangamanga, god of Yalongo lineage of Yato, added to his general
315 duties special duties which included the protection of the reserve of Niua, its
241 nuts, talo and timber, and also the control of all the *ngangie* wood growing anywhere on the atoll. If anyone wished timber from Niua for a canoe, or *ngangie* for implements, he went first to the priest of Te Mangamanga, who consulted the god; if the god was willing, the priest cut down the tree or the piece of *ngangie* and gave it to the person who had requested it. For an unauthorized person to cut timber, or to steal from the reserve, constituted a theft from Te Mangamanga, and the god was quick to punish with sickness. Whales that drifted ashore also came within the special province of Te Mangamanga; it was his priest who directed the cutting up of the whale
[262] and its division among the people. No child might eat whale flesh on pain of being made sick by this god. Te Mangamanga was sometimes called *atua pouli* (god of darkness) because he was supposed to inflict his punishment under cover of darkness.

Te Tawitonga, another god of Yalongo, hissed and frightened thieves stealing talo from the beds of Niua, or from those controlled by his worshipers.

Departmental Gods

772 Matalolau and Matalomea resided in the mud of the talo beds. Neither religious structure nor priest was associated with them. Every time talo was taken from the beds these two gods were remembered with a gift of three or four tubers left for them in the ground.

776 Kanitika was originally a god who controlled the sun. Because he did
821 not order its heat to the liking of either gods or people of Pukapuka, the four gods Te Awuawu, Te Atua Vaelua, Ngaliyeyeu and Te Alangaoa removed Kanitika from the sun with a pair of coconut fire tongs and threw him to the earth where he landed in a flash of lightning. Some informants thought Kanitika went back to the sun in a chastened spirit, since which time the days in Pukapuka have been much cooler; others believe he changed himself into an earthly god, renaming himself Te Atua Pule.

[620] Te Alongaoa, besides being a god of Matanga lineage with ordinary duties, joined with Te Atua Vaelua, Ngaliyeyeu and Te Awuawu to make a quartet of free-lance gods who at times had the attributes of culture heroes, at other times those of departmental gods controlling winds and seas. These four were greatly given to bickering and contesting among themselves. They were specifically concerned with the control of the winds. Te Alongaoa was god

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Malangatiale was killed by lightning at sea. Vakayala is best known for the fact that he stole from Motu Ko, then ran amok and killed two children, and was finally tortured and beaten to death by the enraged populace. Kui Manuila may be the same person as the Kui who is a departmental god; informants remembered only his name. Like Malangatiale, Te Pewu became an ancestor god after he was killed by lightning. Poiva and Taukava are remembered only as gods of Yamanaia sub-lineage of Yangalipule. Wakakewiti is given by some as a malignant spirit, by others as an ancestor god of Yamanaia. Lowia is known as a god of Yato. Leweke is a god of Yamanaia. All these gods had religious clearings (*yionga*) and stones to mark the place where they were accidentally killed.

All these ancestor gods helped the people of the village or lineage with fishing and bird catching. Before fishing, men consulted the priest of the sacred clearing (*yionga*). If the gods gave favorable answer to the priest, the people came back with many fish. If they were unlucky, they blamed the priest for his lax attention to his duties; unless the priest admitted that he was at fault, bad luck continued to harass the people. In fishing bonito or other deep-sea fish, whenever the men of Matanga went past the part of Motu Ko from which they could see the clearing of Te Pewu, they stood up in the canoe and performed the thigh-beating ritual (*wakatato*) to secure the favor of the god and bring fish to the hooks.

Leweke was directly interested in *Tridacna* (*poyua*). His shrine, called Te Potu-o-Leweke (Sacred-seat-of-Leweke), was a small raised platform of stones near the lagoon beach of Loto village. When a man returned from clam fishing he would place a good clam aside as a gift to this god. People who did not belong to the sub-lineage of Yamanaia asked a priest of Yamanaia to intercede with Leweke to insure good clam fishing.

All the ancestor gods, and particularly Malangatiale, were interested in bird catching. They had the power of sending flocks of birds to the hands of those who prayed to them. The gods made the birds tame and easy to catch.

All the gods were generally thought of as living in a place called Titua under the sea or in the Underworld (Po). Those who were lineage gods came forth from the Underworld to help their intercessors. A number of other gods resided permanently in the Underworld; they cared for the public works of the Underworld and attended the spirits of the recently dead.

Unclassified Gods

Unclassified gods are those who are not prayed to and have little influence on the lives of humans or else function primarily as culture heroes. Maui comes within this class, but he was definitely a culture hero with godlike

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beauty. The woman was bathing in the water. The *tikitiki* pecked at her kilt which fell off. When Muli rushed from the water to drive away the bird, Ngaliyeyeu was waiting for her.

COMMUNICATION WITH THE GODS

Communication with other-worldly powers was generally through the medium of priests. Many times, however, a layman might procure the favor of the gods, or the gods might themselves favor the man with a communication, without the medium of the priest. When warning of reserve violations, the gods and attendants spoke directly to the person concerned. On the other hand, to consult the ancestor god for fishing favors, the captain or any member of a fishing canoe communicated the desires of his crew by performing the *wakatato* ritual close to the religious clearing of the god. In *wakatato*, the suppliant stands up, sways his body back and forward and quickly beats the fronts of his thighs (*wakatato te tenga*) with the palms of his hands. This was believed to attract the attention of the god. Consultations of free lance gods or spirits were sometimes accompanied by a gift of flowers thrown on the ground where the god was supposed to be, or else thrown on the ground anywhere, with the idea that the god would see the flowers and recognize the tribute.

The technique of communicating a request to the gods Te Awuawu and Ngaliyeyeu was different. The intercessor held a coconut-leaf midrib in the air and addressed the gods as follows:

Te lua ule kaina e!	Two penises desirable to eat (a term of affectionate address), hail!
Te matangi maniuo	(Make) the wind calm
Toka te vanga!	Subside the spacings (between the waves)!

Each time he reached the end of his request, he beat the butt of the midrib on the ground with a loud report to attract the attention of the gods. He repeated the plea and the noise-making until the gods listened to him and answered the request. This method of interceding with these gods was done anywhere and was as successful on sea as on land. That anyone might thus directly address these gods probably accounts for some of their popularity.

There is no record of any direct communication with the gods by family prayers, libations, food gifts, or dedication of children.

Religious Structures

Communications to the gods by priests needed the instrumentalities of religious structures: *yiongo*, *awanga*, *wale atua*, and *potu*. The *potu* structure, as distinguished from the sacred seat (*potu*) in a god house, was a simple shrine. I saw none. The shrine of Leweke, the god of clams, was

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described to me as a small raised platform of stones or coral pebbles, about 4 feet square, 2 feet high. Probably coral slabs were raised on edge and the container thus made was filled with small white coral pebbles. When a man returned from clam fishing he stopped before this shrine. Raising a clam in one hand, he addressed the god: "Leweke e, aumai te pipi kula, te pipi melo, te pipi waula ula; teia to tatau" (Leweke o, bring me—next time—red shellfish, brown shellfish, black shellfish; here is your share). He then threw his clam into the sea, toward a submerged rock a few feet from the beach. By this means he assured himself of abundant shellfish next time. A priest might also pray before this shrine.

The god house (*wale atua*), the sacred enclosure (*awanga ya*), and the cemetery constituted an integrated unit for each lineage and its gods in the functioning of Pukapukan religion. The sacred enclosure and the god house might be situated close together, contiguous with the cemetery of the senior lineage in the lineage grouping, or the three structures might be some distance apart. All three units, however, were on the section of land (*kawa*) owned by the lineage. Each sub-lineage (*wakavae*) of the major lineage had its own cemetery, usually also its own god house; if the sub-lineage was powerful enough to control major gods it also had its own sacred enclosure. In any case, the number of the lineage's sacred enclosures and god houses depended on the number of major gods recognized by the lineage. The number of god houses depended further on the number of ancestor gods recognized by the lineage, for each ancestor god was represented by a sacred clearing (*yionga ya*) and each clearing had its associated god house.

The size of the god house varied with the number of sub-lineage units in the descent group which, with the number of lineage gods, determined the number of priests that used the house. Each priest in the lineage had a seat next to a main ridgepost in the god house. Before and behind each post were sacred seats (*potu*), two to each post, for the priests to sit on. If there were twelve priests in the lineage, a house with six ridgeposts was required. The seats consisted of coral slabs placed on edge to form indifferently a round or square curbing about 9 inches high; the interior of this curbing was filled with fine gravel to form a low seat about 16 inches wide. The floor of the house was covered with fine white gravel.

Informants were not clear as to the degree to which the god house was tapu. Priests could go at any time to the house, which seems in many respects to have served as a club house for them when they were not engaged in consulting their gods. Women could not enter the house, nor could the general populace sit, idle, or work there. An individual might go to the god house to consult or to take food to a priest. The priests themselves might eat in the house without desecrating it. At special times, the men of the lineage could go to the god house, as for a shoulder-wrestling contest held at

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ing behind C leader and A men pushing behind A leader. The team that overwhelms and scatters on the ground the members of the other team wins the contest.

Stick-pushing contests (*tutuki*). Two men or two teams hold a stick between them and push against the stick in an effort to force the other side to give ground. The *tutuki* pushing contest, the method of establishing land boundaries (p. 33), was apparently also used as a sporting contest in former times.

Water Sports

Canoe-paddling races (*wainganga vaka*) and canoe-sailing races (*wainganga liaki vaka*) are held today. In the paddling races, men compete with men and women with women, the canoe crews ranging from one to five persons. A course is mapped out on the lagoon from the place in Ngake called Waletoa to a point on Loto beach. The canoes of two villages are launched and held steady by a man from the third village. At the signal the canoes are freed. The first canoe to beach is the winner. There is no chanting to give rhythm for the paddlers. In sailing races the course is across the lagoon to one of the reserve islets. The canoes are held with sails raised and set off at the signal. The canoe that beaches first at the agreed point is the winner. The winning village chants and dances to celebrate the triumph. Each village races with each of the other two villages in turn.

Swimming races (*wainganga kaukau*). Held today between women and between men. Champions from each village race those of other villages; the races are over a lagoon course. Because there is no reference in old chants either to swimming contests or to canoe contests, it is again doubtful whether these are old-time sports. Surfing (*wakayekeyeke*), both body and board, is old, though at the present time neither competitive nor popular.

Fishing Contests

Inter-village fishing contests have survived vigorously to this day. They are of three kinds: *wainganga patuki*, rod-fishing contests from the reef for *patuki*, *talao*, and other reef fish; *wainganga malolo*, flying-fish contests held at night; and *wainganga kakai*, or *malama*, deep-sea fishing contests. Formerly, and the pattern largely holds today, about two fishing contests of each type were held in the pleasure months between the morning rising and the evening rising of the Pleiades. About five days before a fishing contest, a prohibition (*lasi*) was placed by the chief over the reef or deep-sea fishing grounds to ensure that the grounds would not be depleted and also to give the men time to repair canoes and to prepare fishing gear. During these days the men were supposed to stay in their houses, to be serious-minded, to concentrate on the coming contest, to refrain from sexual intercourse, and to see that all fishing gear was in good order. This period is commented upon in many of the fishing chants; the pattern of a tapu fishing period, if not all the actual observances associated with it, survives today.

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In reef-fishing contests, groups of three men, one man from each village, fish from separate locations along the reef for two successive days, stopping each evening at a mutually decided time. Each day's catch is taken to the village, the heads cut off and counted. Formerly the fish were counted on the meeting place of the old men. The village with the greatest number of heads wins the contest and has the right to chant and dance on the third day.

Flying-fish contests are held at night, usually for one night only. The fishing procedure is given elsewhere (p. 58). The canoes come back in the small hours of the morning and anchor in the lagoon. The crews come ashore, leaving one man on each canoe as a guard. In the morning the canoes are beached and the catch counted. The fish are cooked for a feast on the following day, when the winning village has the right to chant. During the season for flying fish the young men engage in netting practice (*taetée penu*) on the beach each evening. The practice nets are made from the aerial roots of the pandanus (*yulu* variety). The "fish" are pandanus keys. One man kneels on the sand with a pile of keys before him. One or two netters stand facing him about 15 paces away with nets in their hands. The thrower tosses the keys very quickly with one or both hands towards the netters, who attempt to catch them as they come flying through the air. Older men comment and give advice to the more inexperienced. The practice is considered as much a game as a serious preparation for the fishing by keeping the eye in training and maintaining skill.

Formerly the village men consulted the gods of the paternal lineage to procure good luck in deep-sea fishing contests (*malama*). It was believed that the gods would order their attendant spirits to send the fish to the canoes of one village only, at the same time barring the fish from the canoes of the other two villages. As this was a challenge to the gods of the other villages to break down the barriers surrounding the canoes, each contest became a test of the powers of the gods of the respective lineages. The modern Pukapukan holds to this old pattern when the men of each village come together for a prayer meeting before each day's fishing (as they do for all other contests), and when one man of the fishing fleet offers up a prayer before the lines are dropped overboard.

Before an exhibition deep-sea fishing contest no deep-sea fishing was done for five days. On the first of these five days the men of each village met together to arrange canoe crews, and on the succeeding days they continued to meet to repair fishing gear. On the night before the contest the Yato men fished in their fishpond for *awa* (milk mullet) to use as bait; Ngake villagers went to Motu Ko to catch *atule* (herring) for the same purpose. On the morning of the fishing contest, the men collected other bait for the regular fishing. The trolling canoes (*vaka takataka mamao*, distant circuit canoes), which are a regular feature of these contests, were away by 3:30 a.m., one from Yato and one from Ngake but none from Loto because that village controls no section of reef or fishing pond from which it can draw trolling bait.

The trolling canoes are fully manned six-seater canoes (*yekeono*). They leave the reef by the passage and circle the atoll from north to east. Then they come back to the passage and circle the atoll from south to east, trolling for bonito and *pala* fish and looking for turtles. They join the fishing fleet on the fishing ground (*pakeke*) at about 3:00 p.m. and fish with the regular fleet for the remainder of the day. Their circuit of the atoll is made on both fishing days. The wife or other female relative of the captain of each trolling canoe provides the food for the canoe crew. Called the *pakupaku*, she prepares quantities of the talo dish *likoliko*, which she puts in the canoe each morning before the start. The canoes troll with bonito rod and hooks and with hand lines. When the crew rest from paddling, they fish with hand lines. All the countable fish caught by these canoes go to the general pile of village fish, but smaller fish left over after the canoe crew has eaten raw as much as they wish while in the canoe, must be given to the *pakupaku* in return for her food. Membership in the crew of a trolling canoe is no light honor. The two days' circuit round the atoll is a task for brawny paddlers only, especially if the trolling is without much success; and the crew earn well the after-contest rest.

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At the end of each day's fishing the canoes come ashore; the fish are taken to the village meeting place; the head, gills, and heart of each fish are preserved as a record, and the body of the fish given out to housewives to cook for the feast on the third day. The count for fish is as follows: albacore, bonito, *palo*, *kamai*, and *manga* fish count one each; one female turtle counts as one fish, but a female turtle with eggs counts as one fish plus one fish extra for each egg she carries. Hence a female turtle may count as high as 140 fish, and the village fortunate enough to make this catch is almost sure to win. A male turtle formerly counted as 50 fish, but owing to recent dispute this has been lowered to 10 fish.

The return of the canoes is accompanied by great animation. The villagers gather on the beach to watch the canoes land. It is dusk and coconut-leaf torches light up the scene. Children sport in the shallows and cry out excitedly whenever a canoe returns with a good haul. There are many disputes as to the total village count of fish and rumors of the fish counts from the other two villages. On the second day excitement quiets down only when a band of young men comes racing back from a visit to the other villages with definite news of scores. Formerly when the canoes were beached, it was permissible for the women to taunt and joke with the men in the fullest freedom, and under cover of the dark to pick out lovers and slip away with them to the bush. Single and married men participated in this freedom, and no after-complaint about an erring spouse received any attention. Old chants carry reference to these occasions of permissible freedom in sexual relations (1).

On the third day the people gather together for the food divisions. Fish from all three villages, together with a levy of 10 nuts for each adult and much prepared talo, are placed in a pile and divided among the lineage groups in each village. The winning village spends the day chanting songs of insulting and glorifying nature and doing appropriate dances. The chanters are dressed in leaf decorations according to village tradition.

Losing a fishing contest is due to breaking the tapus governing the pre-contest prohibition period, or to adultery on the part of the women left in the villages, or women's quarrels, gadding about, and laziness at mat making and domestic tasks while the men are not present. The women are supposed to be especially industrious while the men are fishing, and if a man comes home and learns from gossip that his wife has been idling about, he is justified in beating her for having thus provoked bad luck. In another exhibition fishing contest in which Yato men won, ill-behavior of Ngake women was given as the cause for Ngake's defeat. Loto was defeated for this reason too and also because of antisocial conduct on the part of some fishermen in the division of fish. Instead of taking all fish caught to the village meeting place to be divided, individual fishermen kept back fish for the sole use of their families. One man also removed a *kahoi* head from the fish pile without waiting for the decision of the food dividers. It was suggested by informants in the other villages that this behavior was so disgraceful that it was doubtful whether Loto village could win a fishing contest for many years to come.

Mat-making Contests

In former times women held mat-making contests (*wainganga panga*). A day was fixed for the starting of the plaiting. The village that first finished the required number of mats was the winner of the contest. The number of mats was specified beforehand. They were of a standard size with decorative borders added if desired, though the contest was primarily one for speed. The winning village had the privilege of making a grand parade through the villages, showing off the mats (*liaki na panga*) and chanting as they did so.

539 reef or on the rocks of the ocean bottom. One day Tipeva's fish went to the sea of Langilili and died there. Tipeva was so sorrowful without his sweetheart that he closed the door of his house forever.

Of Te Malo and Totoloa

[538] In the following story telling of the visit of a Pukapukan [226] man named Te Malo to the house of Totoloa under the sea, incidents relating to the killing of the ogre Yelekoua are not obviously related to the main tale but probably concern another story of Te Malo, part of which has been forgotten [226] today. The use of chewed mature coconut flesh spit out on the surface of the water to calm the ripples and render it possible to see fish biting at the hook, is a common Pukapukan fisherman's trick to this day.

Te Malo had two children. They went to the sea to fish bonito. They fished. They succeeded in catching some bonito. The group paddled inside the school of bonito. The (fish) sweetheart of Te Totoloa bit. It broke off the fishhook of Te Malo. Te Malo turned to the back of the canoe, looked out, (saw) his fishhook was broken. "Broken is my favorite uyoloto (hook cut from the middle of the shell)." Te Malo said to both his children, "Spit out so that (the water) is clear, spit with chewed coconut." Te Malo looked below, "Oh, my fishhook is lost." Te Malo had thought that maybe the fishhook was falling down; he looked down into the water, (saw) nothing. Te Malo said to his two children, " I am going to dive down under the ocean, I am going to look for my fishhook which has broken. You two spit out; watch my diving to the bottom of the sea. You two wait up here, till I come up again." Te Malo bid farewell to his two children. Finished bidding farewell, Te Malo dived. He dived, dived, dived, dived, e--e--e--arrived at the house of Totoloa (sic). Te Malo was a person with magical power, his god sent him straight to the house of Totoloa. Totoloa asked Te Malo, "What have you come for?" Te Malo answered, "I have come to search for my fishhook which was cut off by a fish. Is there nothing that your red-eyed sweethearts have brought here?" Totoloa answered, "I don't know. You come look on the roof of my house at the fishhooks brought back to my red-eyed sweethearts."

In his house, the one side of the roof was a dry roof; the other side of the roof was wet; that was where the red-eyed sweethearts gathered. In the dry side Totoloa stayed, and fastened the fishhooks brought by his red-eyed sweethearts.

539 "Tali ake to vayi ki tonga,
Tukia ngalepe te pupuni o Toutapuaki,
Ke yuatiake ngalepe ake, te ika loa tele makalo."

Makatia te popoa mai muli,
Onono ki te akawuwulanga,
Ye kutainatu ke kokolu, onoono e na ule kaina,
Ki te yele kokoti motu i loto.
Koa yeke tenei kainga, koa kupenga mamao mai tua,
Koa taki yele valu, yele witu,
Ulakinga te ika wakawowotu,

Yau ki to aumatavaka,
Ya akaolia te piliume tutakalia te alo kapanga,

Wawa i te atu lalau,
Koa waki ia yeke i katea, e laumama ma to yoa!

"Calm your waters to the south,
Pound to pieces Toutapuaki's barrier, (3)
Until rent asunder, break it that the long-tailed fish swim swiftly to Ngake's canoe."

Drop the bait from the rear,
Watch for the coming of the fish,
Don't lower a twisted noose; watch, o my men, (4)
Loop the fish squarely in the middle.
This lineage is leading, having netted fish far out to sea,
Each man has noosed eight or seven fish,
Carry ashore the fish of various kinds,

Come for your shares.
We swung at the rowlocks, (5) encircling the corners of the lagoon,

Proceeding to foreign lands,
A caught fish pulled to the starboard side, but friends, hoping to take it from us, were sorely disappointed!

[776] [226] 3. Toutapuaki was a god of Yato village who was thought of as maintaining in the ocean a barrier which would keep the fish from Ngake canoes so that Yato men might catch them all and win the contests. The men of each village prayed to their own gods to keep the fish away from their opponents' canoes while sending them to their own canoes.

4. For a discussion of the term of address here used by the canoe captain in steadying his canoe, see [reference obscure--analyst].

5. The reference to rowlocks is metaphorical only. Pukapukan canoes were always paddled. By association with the method of propulsion seen on European boats, the chanter sings as if the fishing canoes in making the customary circuit of the islets had proceeded to far off lands.

793 If the priest has been wholly attentive to his duties, and has
834 been continent the night before the favor is asked, then the
276 gods turn a favorable answer and fishing is successful.

227 [See 1: Beaglehole and Beaglehole, p. 58--analyst.] A
286 kaloma net, e.g., a net used for small beach fish, is made of uka, 10-12 fathoms long, and 6-9 feet deep. It might require 2-3 years to make. The mesh is very small. Vai pule shells were attached to the bottom of the net to serve as weights, and sections of pukama wood were attached at the top to serve as floats. Hauling ropes of kawa tau were served with uka, and attached to the ends of the net.

854 The Pukapukan infant is fed when he is hungry. He plays
855 when he has energy. He sleeps when he is tired. He does
863 any or all these things at any time of the day or night, almost any time, because he mercifully does tend to sleep for most of the night, provided he is young enough, and when he is older, what matters it if he does or not? He can look after himself by this time and so not trouble his elders. The Pukapukan child has no feeding difficulties. If he is not hungry, he does not eat. The oler child takes his food shares away, and either stores it up for a hungry hour or else shares it with another. Nor has the child any excretory difficulties. He is not badly scolded if he dirties his mat; the mat is easily cleaned and so is he by being dropped into the sea. And soon, since no one pays much attention to his excreta, and excretion is considered as natural in this society as eating, he soon learns to go to the sea himself whenever he has need to.

764 [See 1: Beaglehole and Beaglehole, p. 162--analyst.] (From Pau--doubt as to accuracy) Gravestones for children: small stones of any material about 8-9 inches high. Young boy, not wakatane: the stone is placed in the ground with its long side upright. Young girl, not w'wawine: the stone is placed in the ground with its long side on the ground. Children will be buried close together, with the head and feet stones touching those of the next grave. There is no feeling about keeping apart in death wale atua even if they should happen to belong to the same po. Stones for children will be unshaped pungu.

285 Note that the making of baskets with handles was not another
177 Pukapukan custom, but has been introduced, most likely from Rarotonga. Even today these baskets have not any other use save as Bible carriers on Sunday. Their place in Pukapuka was